Symantec Enterprise Security Manager™ Reporting Implementation Guide

Version 6.1

symantec™

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Chapter 1

Introducing Symantec Enterprise Security Manager Reporting

This chapter includes the following topics:

About Symantec ESM Reporting

Symantec ESM Reporting is a tool that lets you dynamically create and present reports on the state of your Symantec ESM Agent computers, and on the state of your Symantec ESM application configuration. Symantec ESM Reporting uses tools that let you organize, limit, or expand data in your report to fit your needs.

Symantec ESM Reporting lets you do the following:

- Send security information from Symantec ESM Managers to the Symantec ESM Reporting database
- Query the Symantec ESM Reporting database for security information
- Format the query results in reports
- Control access to the information in the Symantec ESM Reporting database
- Manage reports, report schedules, and user accounts

- Create reports tailored to your specific needs

The reports that you can create with Symantec ESM Reporting let you track the security state of your network over time. This application lets you present data from your Symantec ESM database to managers, executives, auditors, or operations personnel.

For managers and executives, you can use the reports to show changes to your network security over any given length of time for any area of your network. You can create many types of charts, graphs, and tables to tailor the reports to the preferences of your managers, or to a standard organizational format.

For employees who are responsible for continued improvement of network security, you can provide reports that show areas that need improvement. These reports can show the entire network or focus on part of a policy on a single computer.

You can also create reports that help you manage your Symantec ESM application more effectively. These reports can help you find unused or locked accounts, and accounts with inappropriate permissions. Other reports can show you schedules for your policy runs, helping you identify areas of your network that need to be audited more or less frequently, or that could be audited at a more opportune time.

You can look at the policies that are being run on your computers and decide whether to implement additional or more appropriate policies. You can find reporting errors such as Symantec ESM Agents that are failing to report, or errors in policy runs. You can also look at the versions of your Symantec ESM components to determine what areas of your network need upgrades or whether they have the most current security updates.

Symantec ESM Reporting lets you view information about your Symantec ESM application. The reports can be modified for audience, purpose and scope, and can be automated so that the most current information can be appropriately disseminated.

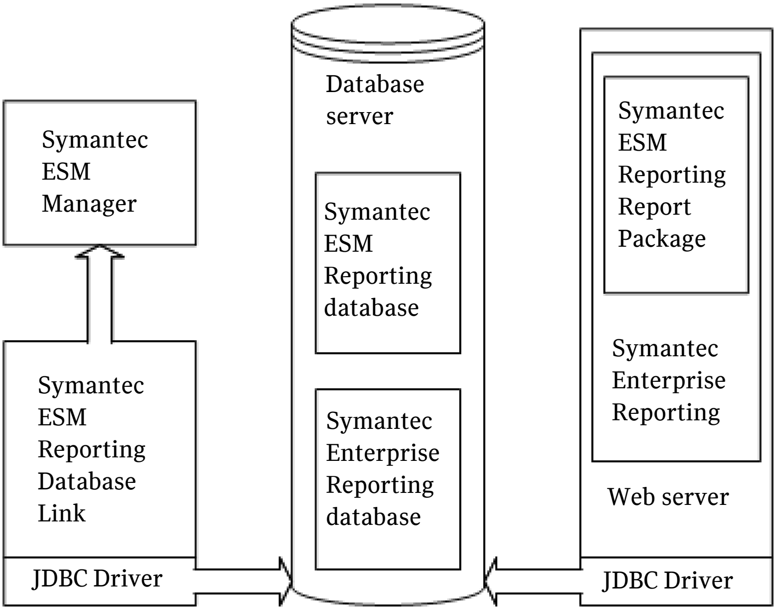
About Symantec Enterprise Reporting

Symantec Enterprise Reporting is the reporting engine that provides comprehensive reporting for Symantec enterprise security products. Symantec ESM Reporting integrates Symantec ESM with Symantec Enterprise Reporting through a database foundation, database link, and a reports package. Symantec Enterprise Reporting provides a Web-based user interface that you can use to generate, view, email, and print a wide range of reports for Symantec ESM.

Components of Symantec ESM Reporting

Symantec ESM Reporting includes the components that are depicted in Figure 1-1. These components install separately.

Figure 1-1 Symantec ESM Reporting components


Symantec ESM Manager
Symantec ESM Reporting Database Link
JDBC Driver
Database server
Symantec ESM Reporting database
Symantec Enterprise Reporting database
Symantec ESM Reporting Report Package
Symantec Enterprise Reporting
Web server
JDBC Driver

Symantec ESM Reporting components

The Symantec ESM Reporting Database Foundation creates the Symantec ESM Reporting database and the Symantec Enterprise Reporting database with their schemas and tables.

The Symantec ESM Reporting Database Link sends security information from the proprietary databases of one or more Symantec ESM Managers to the Symantec ESM Reporting database. To ensure that the Symantec ESM Reporting database contains current information, the Symantec ESM Reporting Database Link runs in background as follows:

- On computers with Windows operating systems, the Symantec ESM Reporting Database Link runs as a service.
- On computers with UNIX operating systems, the Symantec ESM Reporting Database Link runs as a daemon.

The Symantec ESM Reporting Report Package includes the queries that produce new and existing reports and the functions that let users create ad hoc reports.

Third-party components

Symantec Enterprise Reporting includes the Web browser interface, the report forms, and the functions that generate reports in Symantec ESM Reporting. These functions let users schedule existing reports and create new queries and reports.

Symantec Enterprise Reporting installs with anonymous access enabled. You can use the Symantec Enterprise Reporting configuration tool to require an authentication protocol. The authentication protocol lets you restrict access to Symantec ESM Reporting.

The Web server provides the Web browsers on your network with connections to Symantec Enterprise Reporting.

The JDBC Drivers provide the Symantec ESM Reporting Database Link and Symantec Enterprise Reporting with connections to their respective databases.

What you can do with Symantec ESM Reporting

Symantec ESM reporting has many tools that let you create, organize, and present reports and queries using diverse data from the Symantec ESM Reporting database. For example, you can create a report about account privileges with a chart or graph that displays the number of accounts with the same level of privileges. You can create a report containing the names and numbers of Symantec ESM Agent host computers that are compliant with a specific policy. You can also create reports using disparate information that you can combine to provide new insights into your enterprise configurations.

Symantec ESM Reporting includes tools to help you organize your data and tailor it to your specific needs. The Report Studio tool lets you create new reports using a template to help you get started. The Query Studio tool lets you customize a pre-formatted query and add, remove, filter, and format the data to the arrangement that you need. Both of these tools include a metadata model that lets you extract information from the Symantec ESM Reporting database.

In addition to these tools, the Symantec ESM Reporting Report Package provides you with many reports that inspect every facet of your Symantec ESM application. Through these reports, Symantec ESM Reporting provides you with appropriate information about your Symantec ESM Managers, Domains, Agents, Policies, suppression configurations, account configurations, Agent levels, message information, policy runs, audit schedules, licenses, and other topics.

In addition to the reports that provide information about the current state of your network, Symantec ESM Reporting provides reports that show trend information. Date ranges let you show how the security of your enterprise has changed over time to conform to your organizational security policies.

Symantec ESM Reporting lets you control access to your sensitive enterprise data. Read, write, and execute permissions let you limit access according to each user's needs. Symantec ESM Reporting supports a separation of duties. You can set up user accounts that limit user access to only the data for which they are responsible.

Symantec ESM Reporting lets you to schedule reports to run automatically. This ensures that your reports will always be current.

Key features in Symantec ESM Reporting let users:

- Create and view reports and edit database queries that display information from several areas of your Symantec ESM application such as account administration, agent configurations, change notifications, policy compliance, and security information
- Access current or trended information about the compliance of network resources to your organizational security policies
- Configure report information as Web reports, Excel spreadsheets, printed reports, and report views
- Restrict access to the information in reports and the Symantec ESM Reporting database
- Reduce hardware and maintenance costs related to the information needs of large numbers of users
- Reduce support and training costs
- Reduce IT workload, tighten security and raise user productivity by empowering users in a controlled fashion with access to information from Symantec ESM policy runs
- Reduce hardware administration costs through broad platform support

How Symantec ESM Reporting works

The Symantec ESM Reporting Database Link sends security data from the Symantec ESM Manager databases to the Symantec ESM Reporting database.

Symantec Enterprise Reporting uses a metadata model that lets you use queries to find any information in the Symantec ESM Reporting database. You can also use the metadata model to create reports that are tailored to your specific information needs. Symantec Enterprise Reporting delivers the information as interactive Web pages, Excel spreadsheets, report views, or via email.

Where to get more information

This document describes the implementation of Symantec ESM Reporting with Symantec Enterprise Reporting. For more information about using Symantec Enterprise Reporting, see the *User's Guide*, the *Administration and Security Guide*, and the other Symantec Enterprise Reporting documents in the Docs/ Symantec Enterprise Reporting directory on the CD installation set.

For more information about Symantec ESM, see the Symantec Enterprise Security Manager knowledge base on the Symantec Technical Support Web site at:

www.symantec.com/techsupp/enterprise.

The knowledge base link is the first one under Technical Support. You can find the Symantec Enterprise Security Manager knowledge base listed under Policy Compliance.

To obtain an updated version of the Symantec ESM User's Guide or other Symantec ESM documents, see the Symantec Public FTP site at:

ftp://ftp.symantec.com/public/english_us_canada/products/
symantec_enterprise_security_manager

Chapter 2

Before you Install Symantec ESM Reporting

Before you install Symantec ESM Reporting

Symantec ESM Reporting has three main parts:

- A relational database that stores Symantec ESM Reporting data.
- A reporting database link that transfers data from the Symantec ESM Managers to the Symantec ESM Reporting database.
- A reporting application that lets you create, view, customize, and schedule reports. You can use a Web browser to access the application. The browser does not require additional software to access the reports.

Symantec provides four installation programs that you must run in the following sequence to fully install Symantec ESM Reporting:

- Database Foundation
- Database Link
- Symantec Enterprise Reporting
- Reports Package

Before you install Symantec ESM Reporting, ensure that the Symantec ESM Managers have been upgraded to Symantec ESM 6.0 or 5.5, and Security Update 1901. Also ensure that the computers on which Symantec ESM Reporting components and Symantec Enterprise Reporting components will be installed are properly prepared and that you have the logon and other installation information.

See "About system assessment checklists" on page 263.

About the Database Foundation installer

The Database Foundation installer creates two databases with their necessary tables and initial data:

- The Symantec ESM Reporting database stores the data from the Symantec ESM Managers.
- The Symantec Enterprise Reporting database stores the queries and reports that Symantec provides as well as the queries and reports that you create.

Symantec provides the database scripts for the Database Foundation installer on the CD in the database_loader/sql/<database_name> folder. You can change the scripts to customize the databases for your organization. For only IBM DB2 and MS-SQL, if you change the scripts, you must still run the database installer to load the initial data. Select the Import Data option on the Choose Install Set panel to skip the database creation step.

On the computer on which you installed the relational database server, run the Database Foundation installer. This installer creates the ESM and SER databases for Symantec ESM Reporting. The databases serve all of the Symantec ESM Managers and Symantec ESM Reporting Database Links on the network. You can install both databases on the same drive or install each database on a separate drive.

Note: Symantec does not provide a relational database server for Symantec ESM Reporting. You must purchase the relational database server from a database vendor. If you have not already installed a relational database server, you must perform the database server installation before installing the Database Foundation. Before you can perform the database server installation, you must obtain the name and password of an account on the host computer with permissions to create databases.

About the Database Link installer

You can install one Symantec ESM Reporting Database Link for several managers or a separate Symantec ESM Reporting Database Link for each manager. The Symantec ESM Reporting Database Link can be installed on a manager computer or another host computer. Because of the impact to performance, do not install the Symantec ESM Reporting Database Link on the database server computer.

Before you install the Symantec ESM Reporting Database Link, you must complete the following tasks:

- Run the Database Foundation installer to create the Symantec ESM Reporting databases.
- Obtain the name and password of an account on the database server to which the Symantec ESM Reporting Database Link will send data. The database account must have rights to read and write to all of the tables and views in the database. If you run the Database Foundation installer or the manual installation scripts, the ESM_DB_LINK_USER account will be created for you.
- Obtain the name and password of an account on each Symantec ESM Manager from which the Symantec ESM Reporting Database Link will send data. The manager account must have manage user rights and read-only access rights to all domains and policies.

About the Symantec Enterprise Reporting installer

Symantec Enterprise Reporting includes the following components:

- Report Server - the report engine that renders reports.
- Gateway - the component that installs on the Web server computer.
- Content Manager - the component that communicates with the Symantec Enterprise Reporting database.
- Web Server - the component that hosts Symantec Enterprise Reporting.

You can install all of the Symantec Enterprise Reporting components on a single computer. For more complex configurations, install the components on separate computers. To scale for larger deployments, you may need to install the same components on more than one computer.

For more information, see the installation options in the *Architecture and Planning Guide*. You can find this guide on the CD in the Docs\Symantec Enterprise Reporting directory.

Before you can perform the Symantec Enterprise Reporting installation, you must complete the following tasks:

- Install JDBC drivers for your database on each computer on which you install the Content Manager. If you are using IBM DB2 as your relational database server, you must install the DB2 run-time client. The run-time client includes the JDBC drivers and other required software. JDBC drivers let applications that are written using the Java programming language interface with the database. JDBC drivers are usually specific to a database, and database vendors normally provide the JDBC drivers for their databases without cost. Third-party JDBC drivers for some databases may provide better performance than the drivers supplied by the database vendors.
- Run the Database Foundation installer to create and populate the required databases, or manually create the databases and run the Database Foundation to populate them.
- Install a Web server to host Symantec Enterprise Reporting. The installer can install and configure an open-source version of the Apache HTTP server. If you select another Web server, you must manually configure the Web server after installing Symantec Enterprise Reporting.

About the Reports Package installer

Before you can perform the Symantec ESM Reporting Reports Package installation, you must complete the following tasks:

- Run the Database Foundation installer to create the Symantec ESM Reporting databases.
- Run the Symantec Enterprise Reporting installer and install its components on at least one host computer.
- Obtain the URL to the Symantec Enterprise Reporting Gateway.
- Obtain the namespace, user name, and password of an account with the required privileges.
- Obtain the location of the Content Manager’s deployment directory.
- Obtain the type and version of the relational database.
- Obtain the name of the database computer (the database alias for IBM DB2).
- Obtain the name and password of an account on the database that the Content Manager can use to retrieve data for reports. This account must have read access to all of the tables and views in the database that contain Symantec ESM Reporting data. If you run the Database Foundation installer, the ESM_CM_USER account is created for you.

Planning for the Symantec ESM Reporting Database Foundation

Use the following task list to plan for the Symantec ESM Reporting Database Foundation installation:

- Estimate the message volume from the Symantec ESM Reporting Database Link computers.
- Determine the amount of data that you want to keep online.
- Select the database server. Symantec ESM Reporting uses the Symantec ESM Reporting database to store information from the Symantec ESM Reporting Database Link computers. Symantec Enterprise Reporting uses the Symantec Enterprise Reporting database to store report information.
- Select the user accounts, passwords, and role groups for the Symantec ESM Reporting database and the Symantec Enterprise Reporting database.
- Select the URL, user account, and password for the database connection.
- Determine the type and number of required computers.

Planning for the Symantec ESM Reporting Database Link

Use the following task list to plan for the Symantec ESM Reporting Database Link installation:

- Select a compatible JDBC Driver for the database server. For IBM DB2 7.2, you must specify the Java 1.2 Driver.

  See the JDBC Driver documentation.
- Select the Symantec ESM Managers for each Symantec ESM Reporting Database Link.

  You can select one or more Symantec ESM Managers for each Symantec ESM Reporting Database Link. Do not select the same Symantec ESM Manager for two or more Symantec ESM Reporting Database Links.
- Determine the type and number of required computers.

Planning for Symantec Enterprise Reporting

Use the following task list to plan for the Symantec Enterprise Reporting installation:

- Select a compatible JDBC Driver for the database server. For IBM DB2 7.2, you must specify the Java 1.2 Driver.

  See the JDBC Driver documentation.
- Select a compatible Web server. By default, Symantec Enterprise Reporting installs the Apache HTTP Web server.

- Select an optional authentication service.
- Determine the type and number of required computers.

Planning for the Symantec ESM Reporting Reports Package

Use the following task list to plan for the Symantec ESM Reporting Reports Package installation:

- Select the user accounts, passwords, and role groups for the Symantec ESM Reporting Gateway.

Ensuring network connectivity

Appropriate routing must exist between the computers on which you will install the Symantec ESM Reporting Database Foundation, Symantec ESM Reporting Database Link, Symantec Enterprise Reporting, and Symantec ESM Reporting Reports Package and the computers on which you installed the database server and the Symantec ESM Managers. In addition, ensure that there is no firewall or device policy blocking the connections between these computers.

Setting Microsoft SQL Server database authentication

On Windows computers using Microsoft SQL server, you must select Microsoft SQL Server and Windows authentication mode so that the Symantec ESM Reporting Database Foundation can create the ESM and SER databases.

To select Microsoft SQL Server and Windows authentication

1. On the computer on which you are installing the Symantec ESM Reporting Database Foundation, click **Start** > **Programs** > **Microsoft SQL Server** > **Enterprise Manager**.
2. On the SQL Server Enterprise Manager tree, expand Microsoft SQL Server > SQL Server Group.
3. Right-click <database_name>.
4. Click **Properties**.
5. On the Security tab, click **SQL Server and Windows**.

System requirements

Before you install Symantec ESM, ensure that the computers on which you plan to install Symantec ESM components meet the minimum requirements in Table 2-1:

Table 2-1 Symantec ESM system requirements

System resources	System requirements
Symantec ESM Manager	Microsoft Windows ■ Windows 2003 Server. ■ Windows 2000 Professional, Server, or Advanced Server with Service Pack 1.0 or higher. ■ Microsoft Windows NT 4.0 Server or Workstation with Service Pack 5.0 or higher. UNIX ■ Sun Solaris v2.7, 2.8, or 2.9. ■ HP-UX v10.20, 11, or 11i. ■ IBM AIX v4.3.2 through 5.2.
Symantec ESM Agent	Microsoft Windows ■ Windows 2003 Server. ■ Windows 2000 Professional, Server, or Advanced Server with Service Pack 1.0 or higher. ■ Windows XP Professional ■ Microsoft Windows NT 4.0 Server or Workstation with Service Pack 5.0 or higher. UNIX ■ Sun Solaris v2.7, 2.8, or 2.9. ■ HP-UX v10.20, 11, or 11i. ■ IBM AIX v4.3.2 through 5.2. ■ Red Hat Linux v7.1, 8, 9, AS/ES 2.1, or 3.0 (x86). ■ SuSE Linux Standard Server v8.0 (x86). ■ Compaq Tru64 v4. ■ SGI Irix v6.3 Novell NetWare ■ NetWare v4.1, 4.2, 5.0, or 6.0. Digital VMS Midrange ■ Open VMS v7.2 or 7.3 (Alpha processor). IBM OS/400 Midrange ■ IBM iSeries (OS/400) V5R1M0 or V5R2M0).

Table 2-1 Symantec ESM system requirements

System resources	System requirements
Symantec ESM Console	■ Windows 2003 Server. ■ Windows 2000 Professional, Server, or Advanced Server with Service Pack 1.0 or higher. ■ Windows XP Professional ■ Microsoft Windows NT 4.0 Server or Workstation with Service Pack 5.0 or higher.

Before you install Symantec Enterprise Reporting, ensure that the computers on which you plan to install Symantec Enterprise Reporting components meet the minimum requirements in Table 2-2:

Table 2-2 Symantec Enterprise Reporting system requirements

System resources	System requirements
Database hardware	Small, 1 server (up to 100 report users, 100's of Symantec ESM Agents). ■ 2 GHz dual processors. ■ 4 GB RAM. ■ 10 GB free disk space. Medium, 3 servers (500 report users, 1,000 to 10,000 Symantec ESM Agents). One ReportNet Web server. ■ 2 GHz dual processors. ■ 4 GB RAM. ■ 25 GB free disk space. Two ReportNet application servers. ■ 2 GHz dual processors. ■ 4 GB RAM. ■ 25 GB free disk space. Large, (more than 500 report users, more than 10,000 Symantec ESM Agents). ■ Sales engineers can help you with capacity planning.

Table 2-2 Symantec Enterprise Reporting system requirements

System resources	System requirements
Database application	(For operating system versions, check vendor specifications.) Oracle 9i. ■ Solaris Microsoft SQL Server. ■ Microsoft Windows 2000. IBM DB2. ■ IBM DB2 v7.2 or 8.1 on Microsoft Windows.

Table 2-2 Symantec Enterprise Reporting system requirements

System resources	System requirements
Database driver	Oracle. ■ Oracle JDBC driver for Java 1.3 (Classes 12.zip). Download this driver from http://www.oracle.com. Symantec Enterprise Reporting does not function correctly with earlier versions of this driver. Microsoft SQL Server. ■ Microsoft SQL Server requires a fully supported JDBC 2.x driver. The computers on which you are installing the Symantec ESM Reporting Database Foundation must use the Microsoft JDBC driver for SQL Server 2000. Do not use third-party JDBC Drivers for the Microsoft SQL Server database. IBM DB2 8.1 ■ Use the default driver that installs with the DB2 database. You can find this driver at the following default path: C:/Program Files/IBM/SQLLIB/java/db2java.zip For this driver, you must include the following string in the library path during the installations of both the Symantec ESM Reporting Database Link and Symantec Enterprise Reporting: C:/Program Files/IBM/SQLLIB/BIN The path may vary if you did not use the default installation path for the DB2 installation. IBM DB2 7.x ■ Configure DB2 7.x to use the correct JDBC driver. This requires that you run the .bat file located at the following path before you install the Symantec ESM Reporting applications: C:/Program Files/SQLLIB/java12/usejdbc2.bat The path may vary if you did not use the default DB2 installation path. If you installed DB2 7.x at the default location, the correct driver is available at the following path: C:/Program Files/SQLLIB/java/db2java.zip ■ For this driver, you must include the following string in the library path during the installations of both the Symantec ESM Reporting Database Link and Symantec Enterprise Reporting: C:/Program Files/SQLLIB/BIN The path may vary if you did not use the default installation path for the DB2 installation.

Table 2-2 Symantec Enterprise Reporting system requirements

System resources	System requirements
Web server	■ Microsoft IIS on Windows. ■ iPlanet on Solaris. ■ Apache on Windows or Solaris.
Web browser	Symantec Enterprise Reporting and Report Viewer ■ Internet Explorer 6 SP1 ■ Internet Explorer 5.5 SP2 ■ Netscape 7.1 Query Studio ■ Internet Explorer 6 SP1 ■ Internet Explorer 5.5 SP2 ■ Netscape 7.1 Report Studio ■ Internet Explorer 6 SP1 ■ Internet Explorer 5.5 SP2

Note: When you use Type 2 JDBC drivers with .dll files or shared libraries, you must include the path to the shared files in the library path steps in the installations of the Symantec ESM Reporting Database Link and Symantec Enterprise Reporting.

Where possible, use IBM DB2 8.1 for Symantec ESM Reporting. IBM DB2 8.1 requires less administrative overhead and has better performance than IBM DB2 7.2.

Before you install Symantec ESM Reporting Database Link, ensure that the computers on which you plan to install Symantec ESM Reporting Database Link components meet the minimum requirements in Table 2-3:

Table 2-3 Symantec ESM Reporting Database Link system requirements

System resources	System requirements
Hardware	■ 1 GHz processor. ■ 1 GB RAM. ■ 77 MB free disk space.
Server operating system	■ Windows 2003 Server. ■ Windows 2000 Professional, Server, or Advanced Server with Service Pack 3.0 or higher. ■ Sun Solaris v2.7 through 2.9. ■ HP-UX v11 through 11i. ■ IBM AIX v5.1 through 5.2
Databases	■ Oracle 9i. ■ Microsoft SQL Server 2000. ■ IBM DB2 v7.2 or 8.1.

Table 2-3 Symantec ESM Reporting Database Link system requirements

System resources	System requirements
Database driver	Oracle. ■ Oracle 1.4 JDBC driver. Download this driver from http://www.oracle.com. Symantec Enterprise Reporting does not function correctly with earlier versions of this driver. Microsoft SQL Server. ■ Microsoft SQL Server requires a fully supported JDBC 2.x driver. The computers on which you are installing the Symantec ESM Reporting Database Link must use third-party JDBC Drivers for the Microsoft SQL Server database. Do not use the Microsoft JDBC driver for SQL Server 2000. See the jTDS JDBC Drivers at http://sourceforge.net or the list of JDBC Drivers at http://servlet.java.sun.com/products/jdbc/drivers. IBM DB2 8.1 ■ Use the default driver that installs with the DB2 database. You can find this driver at the following default path: C:/Program Files/IBM/SQLLIB/java/db2java.zip For this driver, you must include the following string in the library path during the installations of both the Symantec ESM Reporting Database Link and Symantec Enterprise Reporting: C:/Program Files/IBM/SQLLIB/BIN The path may vary if you did not use the default installation path for the DB2 installation. IBM DB2 7.x ■ Configure DB2 7.x to use the correct JDBC driver. This requires that you run the .bat file located at the following path before you install the Symantec ESM Reporting applications: C:/Program Files/SQLLIB/java12/usejdbc2.bat The path may vary if you did not use the default DB2 installation path. If you installed DB2 7.x at the default location, the correct driver is available at the following path: C:/Program Files/SQLLIB/java/db2java.zip For this driver, you must include the following string in the library path during the installations of both the Symantec ESM Reporting Database Link and Symantec Enterprise Reporting: C:/Program Files/SQLLIB/BIN The path may vary if you did not use the default installation path for the DB2 installation.

Additional requirements for all computers

The following requirements apply to all computers:

- If you perform a custom installation of the ESM and SER databases, use the database names that you assign instead of the default database names when installing the Symantec ESM Reporting Database Link, Symantec Enterprise Reporting, and Symantec ESM Reporting Reports Package. Also, use the database names that you assign when configuring Symantec Enterprise Reporting.
- If the host computer on which you are installing the Symantec ESM Reporting Database Link uses Oracle OCI drivers, do the following tasks before running the Database Link installer:
    - Set up the OCI client.
    - Set up the ORACLE_HOME environment variable with the location of the installed Oracle files.
    - Set up the appropriate environment variable for the operating system with the location of the OCI's libraries and drivers:
      LD_LIBRARY_PATH for Solaris computers.
      SHLIB_PATH for HPUX computers
      LIBPATH for AIX computers.
- If you are installing the Symantec ESM Reporting Database Link to a destination other than the default directory, you must ensure that the path does not contain multi-byte characters.
- To add or delete a Symantec ESM Manager or make another change to an installed Symantec ESM Reporting Database Link, you must use the installation CD to run the Database Link installer on the host computer and type the new configuration information.
- If Cognos is already installed on the computers on which you are installing Symantec Enterprise Reporting, use the Enterprise Reporting Configuration utility to change the name of the node under the ReportNet Service. This changes the name of the service so that Symantec Enterprise Reporting can install.
  If you decide to uninstall Cognos after changing the name of the service, you must stop the service before proceeding. After the uninstaller finishes, delete the Cognos installation directory if necessary.
- If you are installing Symantec Enterprise Reporting on two or more host computers, you must install a separate content store for each of them. See the *Architecture and Planning Guide* on the CD in the Docs\Symantec Enterprise Reporting directory.

- If the host computer on which you are installing Symantec Enterprise Reporting has already installed a Web server, you must manually configure the Web server to function with Symantec Enterprise Reporting. See the *Installation and Configuration Guide* on the CD in the Docs\Symantec Enterprise Reporting directory.
- Before you can reinstall the Symantec ESM Reporting Database Foundation, you must stop all of the Symantec ESM Reporting Database Links that are connected to the database.
  - On Windows computers, you must stop the Symantec ESM Reporting Database Link service.
  - On UNIX computers, you must stop the Symantec ESM Reporting Database Link daemon.

  See "Stopping and restarting the Symantec ESM Reporting Database Link on UNIX" on page 98.

Additional Windows requirements

The following requirements apply to Windows computers:

- The Windows computers on which you are installing the Symantec ESM Reporting Database Foundation, the Symantec ESM Reporting Database Link, Symantec Enterprise Reporting, or the Symantec ESM Reporting Reports Package must not be running the Symantec pcAnywhere service.
- The Windows computers on which you are installing the Symantec ESM Reporting Database Foundation, the Symantec ESM Reporting Database Link, Symantec Enterprise Reporting, or the Symantec ESM Reporting Reports Package must display at least 256 colors and 800 by 600 pixels.
- The Windows computers on which you installed IBM DB2 must maintain a 2:1 ratio of tablespace to index space because the Symantec ESM Reporting Database Foundation installer creates databases that use database managed tablespaces.
- The Windows computers on which you are installing the Symantec ESM Reporting Database Link must install third-party JDBC Drivers for the Microsoft SQL Server database. The Symantec ESM Reporting Database Link is not fully compatible with the Microsoft JDBC Driver for Microsoft SQL Server. See the jTDS JDBC Drivers at http://sourceforge.net or the list of JDBC Drivers at http://servlet.java.sun.com/products/jdbc/drivers.

- On Windows computers using DB2, do one of the following when installing the Symantec ESM Reporting Database Link or Symantec Enterprise Reporting:
    - Specify the JDBC .app driver if the host computer has installed a run-time client that can establish a local connection with the DB2 database server across the network.
    - Specify the JDBC .net driver if the host computer must establish a remote connection with the DB2 database server across the network.
- On Windows computers using Microsoft SQL server, ensure that the following user accounts do not exist in the \Microsoft SQL Servers\ SQL Server Group\<host_computer>\Security\Logins folder before installing the Symantec ESM Reporting Database Foundation:
    - ESM_CM_USER
    - ESM_DB_LINK_USER
    - ESM_REPORT_USER
    - ESMDB10

Additional UNIX requirements

The following requirements apply to UNIX computers:

- On UNIX computers, you must run the command xhost +localhost as root before starting to install Symantec ESM Reporting. This command lets other users run the installation programs.
- On UNIX computers, you must set the DISPLAY variable before starting to install Symantec ESM Reporting. Set DISPLAY = hostname:0.0 and then export DISPLAY.
- On UNIX computers that use an IBM DB2 runtime client to connect to a remote database server using the app driver, you must add the runtime library lib directory to the LD_LIBRARY_PATH environment variable before you start installing the Symantec ESM Reporting Database Link. To set the LD_LIBRARY_PATH variable, use the export (sh, bash, ksh) or setenv (csh) commands. For example, if the IBM DB2 runtime client is in the /opt/IBM/db2/V8.1 directory and the user session uses a sh shell, to set the LD_LIBRARY_PATH variable, do the following at the system command prompt:
    - type **LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/IBM/db2/V8.1/lib**.
    - type **export LD_LIBRARY_PATH**.

- On HP-UX computers on which you are installing the Symantec ESM Reporting Database Link, you must mount the CD using pfs. The Symantec ESM Reporting CD file names use Rock Ridge Extensions. To mount the CD using pfs:
    - Add a line of text to the /etc/pfs_fstab file in the following format:
      [device_file] [mount_point] [filesystem_type] [translation method]
      For example, type /dev/dsk/c0t0d0 /sd_cdrom
      pfs-rrip xlat=unix 0.
    - Open a UNIX shell.
    - Start the pfs daemons.
      #nohup /usr/sbin/pfs_mountd&
      #nohup /usr/sbin/pfsd&
    - Mount the Symantec ESM Reporting installation CD by typing **pfs_mount /cdrom**.
    - After you finish installing the Symantec ESM Reporting Database Link, unmount the CD by typing **pfs_umount /cdrom**.
- On Solaris computers on which you are installing the Symantec ESM Reporting Database Foundation, the account that you are using to run the installer must have permission to write to the /var/opt/oracle/oratab file.
- On Solaris computers on which you are installing the Symantec ESM Reporting Database Foundation, the Oracle database server must have created at least one database before running the Database Foundation installer. The installer will report an error if the listener.ora or tnsnames.ora files are missing.
- On Solaris computers on which you are installing Symantec Enterprise Reporting, you must define ORACLE_HOME before running the Symantec Enterprise Reporting installer.
- On Solaris computers on which you are installing Symantec Enterprise Reporting, ensure there is adequate disk space for the components.

Chapter 3

Installing Symantec ESM Reporting

Installing Symantec ESM Reporting

Before you install Symantec ESM Reporting, do the following tasks:

- Install or upgrade to Symantec ESM 6.0 or 5.5. If this is a new installation, run several Symantec ESM policies.
- Install or select an IBM DB2, Oracle, or Microsoft SQL Server (MS-SQL) database server for the Symantec ESM Reporting database and the Symantec Enterprise Reporting database.
    - Solaris computers on which you install an Oracle database server must install a Web server before installing Symantec Enterprise Reporting. You can download the Apache HTTP Web server from the Apache Web site at http:\\www.apache.org.
    - Windows computers on which you install an IBM DB2 or MS-SQL database server can install a Web server during the Symantec Enterprise Reporting installation.

Install on Windows computers using IBM DB2

Symantec ESM Reporting can install on a mix of Windows and UNIX computers using an IBM DB2, MS-SQL, or Oracle database server. The following procedures describe the installation of Symantec ESM Reporting on Windows computers using an IBM DB2 database server.

Installing the Symantec ESM Reporting Database Foundation for IBM DB2

The installation process consists of doing one of the following tasks:

- Install the Symantec ESM Reporting Database Foundation for IBM DB2.
- Use SQL scripts to create the databases for IBM DB2.

See "About the Database Foundation installer" on page 24.

Create the ESM and SER databases

When you run the Database Foundation installer and select the Default DB2 option, the installer creates two databases. By default, ESM is the name of the Symantec ESM Reporting database and SER is the name of the Symantec Enterprise Reporting database. Each database has 2 GB for User and Index tablespaces.

If your installation requires larger table spaces, Symantec provides SQL scripts that let you manually create the ESM and SER databases. You must still use the Database Foundation installer to import the necessary data into the databases. After importing the data, you must run an additional SQL script to tune the database.

See "About Symantec ESM Reporting installation scripts" on page 281.

Note: For only IBM DB2 7.2, you must log on to the computer on which you installed IBM DB2 using the DB2ADMIN account.

To install the Symantec ESM Reporting Database Foundation for IBM DB2

1. On the computer on which you installed IBM DB2, access the Symantec ESM Reporting Windows CD. If the autorun feature does not start, double-click **setup.bat**.
2. On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD panel, in the left pane, click **Database Foundation**.

3 In the right pane, do the following tasks:

- Review the information
- Complete the installation prerequisites
- Click **Execute the Database Foundation Installer**.

4 On the Introduction panel, click **Next**.

5 On the License Agreement panel, click **I accept the terms of the License Agreement**, and then click **Next**.

6 On the Choose Install Set panel, do one of the following tasks:

- To let the Database Foundation installer create the ESM and SER databases and import the necessary data, click **Default DB2**, and then click **Next**.

  The Symantec ESM Reporting Database Foundation installer creates the ESM and SER databases with 2 GB each for the User and Index tablespaces. If your installation requires larger tablespaces, you must manually create the ESM and SER databases, and then select the Import Data option.
- To import the necessary data into the ESM and SER databases that you manually created, click **Import Data**, and then click **Next**.

  If you select this option, the installer skips steps 7 through 13 and prompts you to choose the type of database in which to store your Symantec ESM Reporting data. Go to step 14.
- If you intend to manually create the ESM and SER databases but have not yet done so, click **Cancel**.

  Symantec provides scripts that let you manually create the ESM and SER databases. You can find the scripts on the Symantec Enterprise Security Manager (ESM) 6.1 Reporting Windows CD in the SQL directory. You can change the scripts to customize the databases for your organization.

Note: After clicking **Next**, if you want to select a different database option, you must cancel the Symantec ESM Reporting Database Foundation installation and start over.

7 On the Choose... panel, do one of the following tasks:

- Select the db2cmd.exe file to use in the list and then click **Next**.
- To select another file path, click **Choose Other**, and then click **Choose**.

  In the Please Select db2cmd.exe File dialog box, select the desired db2cmd.exe file, click **Open**, and then click **Next**.

8 On the Database(s) to Create panel, do one of the following tasks:

- To create the Symantec ESM Reporting database and the Symantec Enterprise Reporting database, click **Create both the ESM and SER Databases**, and then click **Next**.
- To create only the Symantec ESM Reporting database, click **Create the ESM Database only**, and then click **Next**.
- To create only the Symantec Enterprise Reporting database, click **Create the SER Database only**, and then click **Next**.

Note: Symantec ESM Reporting requires both the ESM and SER databases to function.

9 On the Get Database Names panel, do one of the following tasks:

- To specify the default Symantec ESM Reporting Database Name and Symantec Enterprise Reporting Database Name, click **Next.**
- To specify different database names, type the names in the related text boxes, and then click **Next**.

10 On the Database Drive panel, do one of the following tasks:

- To specify the default drive, click **Next**.
- To specify another drive for the databases to store data, type the name of the drive in the text box, and then click **Next**.

11 On the Default Password panel, do the following tasks:

- In the Default Password text box, type a secure password for the database accounts.
- In the Confirm Default Password text box, retype the password.

12 On the Symantec ESM Reporting database accounts panel, do one of the following tasks:

- To specify the default account name and password for the Symantec ESM Reporting Database Link account and the Symantec Enterprise Reporting account, click **Next**.
- To specify another account name or password for the Symantec ESM Reporting Database Link account or the Symantec Enterprise Reporting account, type the information in the related text boxes, and then click **Next**.

13 On the Symantec Enterprise Reporting database accounts panel, do one of the following tasks:

- To specify the default account name and password for the Content Store account, click **Next**.
- To specify another account name or password for the Content Store account, type the information in the related text boxes, and then click **Next**.

14 On the Choose Database Type panel, select **DB2**, and then click **Next**.

Note: If you selected Default DB2 in step 6, the installer skips this step.

15 On the JDBC Driver panel, do one of the following tasks:

- To specify the default JDBC Driver Class and JDBC Classpath, and JDBC Library Path, click **Next**.
- To specify another JDBC Driver Class, JDBC Classpath, or JDBC Library Path, type the information in the related text boxes, and then click **Next**.

Note: For IBM DB2 7.2, you must specify the Java 1.2 Driver. See the JDBC Driver documentation.

16 On the Database Connection panel, do one of the following tasks:

- To specify the default database URL and user account name, type the password of the user account in the text box, and then click **Next**.
- To specify another database URL, user name, and password, type the information in the related text boxes, and then click **Next**.

17 On the Pre-Install Summary panel, click **Install**.

Note: If the Symantec ESM Reporting Database Foundation installer reports that it cannot find the local settings directory, set the TEMP and TMP environment variables to a path that does not contain international characters. Then rerun the Symantec ESM Reporting Database Foundation installer.

18 On the Install Complete panel, click **Yes, restart my system**, and then click **Done**.

Note: In a DB2 cluster, the Symantec ESM Reporting Database Foundation installer creates the following database user accounts on the primary node:

- ESM_DB_LINK_USER
- ESM_REPORT_USER
- ESM_CM_USER

You must manually create these accounts on the secondary node.

To manually create the ESM and SER databases for IBM DB2

See “About the installation scripts for IBM DB2” on page 282.

1 On the computer on which you installed IBM DB2, at the system command prompt, change to the Symantec ESM Reporting Windows CD.

2 Change to the sql\db2 folder.

3 Type **create_esm_db**

4 Type **create_ser_db**

5 Start the Symantec ESM Reporting Database Foundation installer. The process is the same as installing the Symantec ESM Reporting Database Foundation for IBM DB2 except for the following change:

On the Choose Install Set panel, click **Import Data**, and then click **Next**.

See “To install the Symantec ESM Reporting Database Foundation for IBM DB2” on page 42.

6 At the system command prompt, change to the Symantec ESM Reporting Windows CD.

7 Change to the sql\db2\createESMdb folder.

8 Type **post_install**

Note: If you changed the name of the ESM database in the installation scripts, you must change the name of the ESM database in the post_install.cmd script.

9 Restart the host computer system.

Installing the Symantec ESM Reporting Database Link for IBM DB2

The installation process includes the following tasks:

- Install, connect, and test the IBM DB2 run-time client for the Symantec ESM Reporting Database Link.
- Install the Symantec ESM Reporting Database Link for IBM DB2.

Install, connect, and test the IBM DB2 run-time client for the Symantec ESM Reporting Database Link

Symantec does not provide a run-time client for the IBM DB2 database server. You can download the IBM DB2 Run-Time Client from the IBM DB2 Web site at http://www.ibm.com/software/data/db2/udb/support.html.

To install the IBM DB2 8.1 run-time client for the Symantec ESM Reporting Database Link

1. On the computer on which you are installing the Symantec ESM Reporting Database Link, double-click the IBM DB2 Run-Time Client installation file.
2. On the Welcome to the DB2 Setup wizard panel, click **Next**.
3. On the License Agreement panel, click **I accept the terms in the license agreement**, and then click **Next**.
4. On the Select the installation type panel, to select the typical installation, click **Next**.
5. On the Select the installation folder panel, to select the default drive and directory, click **Next**.
6. On the Configure NetBIOS panel, click **Next**.
7. On the Start copying files panel, click **Install**.
8. On the Setup is complete panel, click **Finish**.

To connect the IBM DB2 8.1 run-time client for the Symantec ESM Reporting Database Link

1. On the computer on which you are installing the Symantec ESM Reporting Database Link, at the system command prompt, change to the Symantec ESM Reporting Windows CD.
2. Change to the sql\db2\runtime folder.
3. Type **catalog_esm_db <host_computer_name> ESM 50000**

Note: If you changed the name of the ESM database in the installation scripts, you must change the name of the ESM database in the catalog_esm_db script.

To test the IBM DB2 8.1 run-time client connection for the Symantec ESM Reporting Database Link

1. At the db2 command prompt, type **CONNECT TO** <database-alias- name> **AS USER** <database-user-name>. For example, CONNECT TO ESM as USER ESM_DB_LINK_USER.
2. At the prompt to Enter current password for <database-user-name>, type the ESM_DB_LINK_USER account password.
3. Verify that the database connection was successful.
4. Exit from the Command Line Processor.

To install the IBM DB2 7.2 run-time client for the Symantec ESM Reporting Database Link

◆ On the computer on which you are installing the Symantec ESM Reporting Database Link, access the IBM DB2 installation CD, select the run-time client installation, and then select the default installation settings.

To connect and test the IBM DB2 7.2 run-time client for the Symantec ESM Reporting Database Link

1. On the computer on which you are installing the Symantec ESM Reporting Database Link, click **Start** > **Programs** > **IBM DB2** > **Configuration Assistant**.
2. In the DB2 Message prompt to add a database, click **Yes**.

   If the DB2 Message prompt does not display, on the Menu bar, click **Selected**, and then click **Add Database Using Wizard**.
3. On the Select how you want to set up a connection panel, click **Manually configure a connection to a database**, and then click **Next**.
4. On the Select a communications protocol, click **TCP/IP** and then click **Next**.
5. On the Specify TCP/IP communication parameters panel, do the following tasks:
   - In the Host name text box, type the name of the computer on which you installed IBM DB2.
   - In the Port number text box, type **50000**.
6. Click **Next**.

7 On the Specify the name of the database to which you want to connect panel, in the Database name text box, type **ESM.**

8 Click **Next**.

9 On the Register this database as a data source panel, uncheck the Register this database for ODBC check box, and then click **Next**.

10 On the Specify the node options panel, in the Operating system list box, click **Windows**, and then click **Next**.

11 On the Specify the system options panel, click **Finish**.

12 In the Test Connection dialog box, on the Connections tab, do the following tasks:

- In the User ID text box, type **ESM_DB_LINK_USER**.
- In the Password text box, type the ESM_DB_LINK_USER password.
- Click **Test Connection**.

13 In the Test Connection dialog box, on the Results tab, verify that the CLI connection was successful.

14 Exit from the DB2 Configuration Assistant.

Install the Symantec ESM Reporting Database Link for IBM DB2

See "About the Database Link installer" on page 25.

To install the Symantec ESM Reporting Database Link for IBM DB2

1 On the computer on which you are installing the Symantec ESM Reporting Database Link, access the Symantec ESM Reporting Windows CD. If the autorun feature does not start, double-click **setup.bat**.

2 On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD panel, in the left pane, click **Database Link**.

3 In the right pane, do the following tasks:

- Review the information
- Complete the installation prerequisites
- Click **Execute the Database Link Installer**.

4 On the Introduction panel, click **Next**.

5 On the License Agreement panel, click **I accept the terms of the License Agreement**, and then click **Next**.

6 On the Choose Installation Type panel, click **Initial Installation**, and then click **Next**.

7. On the Choose Install Folder panel, do one of the following tasks:
   - To select the default folder, click **Next**.
   - To select another folder, click **Choose**.
     In the Browse for Folder dialog box, select the desired location, click **OK**, and then click **Next**.

   Note: If you select the ..\Symantec\ESM folder, uninstalling Symantec ESM will remove the Symantec ESM Reporting Database Link.

8. On the Database Type Selection panel, click **DB2**, and then click **Next**.
9. On the JDBC Driver Information panel, do one of the following tasks:
   - To specify the default JDBC Driver Class, JDBC Classpath, JDBC Library Path, and SQL Dialect, click **Next**.
   - To specify another JDBC Driver Class, JDBC Classpath, JDBC Library Path, and SQL Dialect, type the information in the related text boxes, and then click **Next**.

   Note: For only IBM DB2 7.2, you must specify the Java 1.2 Driver. See the JDBC Driver documentation.

10. On the Database Connection panel, do one of the following tasks:
    - To specify the default database URL and account name, type the password of the ESM_DB_LINK_USER account in the related text box, and then click **Next**.
    - To specify another database URL, user name, and password, type the information in the related text boxes, and then click **Next**.
11. On the ESM Manager Connection panel, do the following tasks:
    - Type the name of the Symantec ESM Manager.
    - Type the user name of an account on the manager with manage user rights and read only access rights to all domains and policies.
    - Type the password of the manager account.
    - Specify the port number of the manager.

    Click the right-arrow to add the manager to the list. Optionally, repeat these steps to let the Symantec ESM Reporting Database Link connect to another Symantec ESM Manager.

Warning: Do not connect two Symantec ESM Reporting Database Links to the same Symantec ESM Manager and database. The database link log will report primary key failures.

If you specify connections to several Symantec ESM Managers during the installation of a Symantec ESM Reporting Database Link, a race condition may cause some ESM database errors during the initial transfer of data. You can correct the errors by stopping and restarting the Symantec ESM Reporting Database Link.

See "Checking the Symantec ESM Reporting Database Link log for errors" on page 101.

12 On the Pre-Install Summary panel, click **Install**.

13 On the Install Complete panel, click **Done**.

Note: In the C:\Program Files\Symantec\Reporting_Database_Link\server\default\conf\log4j.xml file, the default settings limit the Symantec ESM Reporting Database Link log file to a maximum file size of 50 MB and three backups. You can change the MaxFileSize value to increase the file size and the MaxBackupIndex value to increase the number of backup files.

Installing Symantec Enterprise Reporting for IBM DB2

The installation process includes the following tasks:

- Install, connect, and test the IBM DB2 run-time client for Symantec Enterprise Reporting.
- Configure an installed Apache HTTP Web server for Symantec Enterprise Reporting.
- Install Symantec Enterprise Reporting for IBM DB2
- Configure the installed Apache HTTP Web server for LDAP authentication.

Install, connect, and test the IBM DB2 run-time client for Symantec Enterprise Reporting

Symantec does not provide a run-time client for the IBM DB2 database server. You can download the IBM DB2 Run-Time Client from the IBM DB2 Web site at http://www.ibm.com/software/data/db2/udb/support.html.

To install the IBM DB2 8.1 run-time client for Symantec Enterprise Reporting

- On the computer on which you are installing Symantec Enterprise Reporting, install the IBM DB2 8.1 run-time client. The process is the same as installing the IBM DB2 8.1 run-time client for the Symantec ESM Reporting Database Link.

  See "To install the IBM DB2 8.1 run-time client for the Symantec ESM Reporting Database Link" on page 47.

To connect the IBM DB2 8.1 run-time client for Symantec Enterprise Reporting

1. On the computer on which you are installing Symantec Enterprise Reporting, at the system command prompt, change to the Symantec ESM Reporting Windows CD.
2. Change to the sql\db2\runtime folder.
3. Type **catalog_esm_db <host_computer_name> ESM 50000**
4. Type **catalog_ser_db <host_computer_name> ESM 50000**

Note: If you changed the name of the ESM or SER database in the installation scripts, you must change the name of the ESM or SER database in the catalog_esm_db or catalog_ser_db scripts.

To test the IBM DB2 8.1 run-time client connection for Symantec Enterprise Reporting

- On the computer on which you are installing Symantec Enterprise Reporting, test the IBM DB2 8.1 run-time client connection. The process is the same as testing the IBM DB2 8.1 run-time client connection for the Symantec ESM Reporting Database Link except for the following changes:
  - At the DB2 command prompt, type **CONNECT TO** <database-alias-name> **AS USER** <database-user-name>

    For example, CONNECT TO ESM as USER ESM_REPORT_USER.
  - At the DB2 command prompt, type **CONNECT TO** <database-alias-name> **AS USER** <database-user-name>

    For example, CONNECT TO SER as USER ESM_CM_USER.

  See "To test the IBM DB2 8.1 run-time client connection for the Symantec ESM Reporting Database Link" on page 48.

To install the IBM DB2 7.2 run-time client for Symantec Enterprise Reporting

- ◆ On the computer on which you are installing the Symantec ESM Reporting Database Link, access the IBM DB2 7.2 installation CD, select the run-time client installation, and then select the default installation settings.

To connect and test the IBM DB2 7.2 run-time client for Symantec Enterprise Reporting database

- ◆ On the computer on which you are installing Symantec Enterprise Reporting, connect the IBM DB2 7.2 run-time client. The process is the same as connecting the IBM DB2 7.2 run-time client for the Symantec ESM Reporting Database Link except you must make the following changes for the ESM database connection:
  - On the Specify the name of the database to which you want to connect panel, in the Database name text box, type **ESM**.
  - In the Test Connection dialog box, on the Connections tab, do the following tasks:

    In the User ID text box, type **ESM_REPORT_USER**

    In the Password text box, type the ESM_REPORT_USER password.

    Click Test Connection.

  You must make the following changes for the SER database connection:
  - On the Specify the name of the database to which you want to connect panel, in the Database name text box, type **SER**
  - In the Test Connection dialog box, on the Connections tab, do the following tasks:

    In the User ID text box, type **ESM_CM_USER**

    In the Password text box, type the ESM_CM_USER password.

    Click **Test Connection**.

  See "To connect and test the IBM DB2 7.2 run-time client for the Symantec ESM Reporting Database Link" on page 48.

Configure an installed Apache HTTP Web server for Symantec Enterprise Reporting

If the computer on which you are installing Symantec Enterprise Reporting has already installed an Apache HTTP Web server, you must manually configure the Web server for Symantec Enterprise Reporting.

To configure the installed Apache HTTP Web server for Symantec Enterprise Reporting

1. On the computer on which you are installing Symantec Enterprise Reporting, use a text editor to open the C:\Program Files\ Apache Group\Apache2\conf\httpd.conf file.
2. In the ScriptAlias section, find the following line of text:

   ```
   ScriptAlias /cgi-bin/ “C:/Program Files/Apache Group/
   Apache2/cgi-bin/”
   ```

3. Immediately below that line, type the following two lines of text:

   ```
   ScriptAlias “/Enterprise_Reporting/cgi-bin/
   C:/Program Files/Symantec/Enterprise_Reporting/
   cgi-bin/”
   ScriptAlias “/Enterprise_Reporting/cgi-bin
   C:/Program Files/Symantec/Enterprise_Reporting/
   cgi-bin”
   ```

4. At the end of the httpd.conf file, type the following lines of text:

   ```
   <Directory “C:/Program Files/Symantec/
   Enterprise_Reporting/cgi-bin/”>
   Options Indexes FollowSymlinks
   AllowOverride None
   Order allow,deny
   Allow from all
   </Directory>

   Alias “/Enterprise_Reporting/help/
   C:/Program Files/Symantec/Enterprise_Reporting/
   webcontent/documentation/”
   <Directory “C:/Program Files/Symantec/
   Enterprise_Reporting/webcontent/documentation/”>
   Options Indexes FollowSymlinks
   AllowOverride None
   Order allow,deny
   Allow from all
   </Directory>

   Alias “/Enterprise_Reporting/ C:/Program Files/
   Symantec/Enterprise_Reporting/webcontent/”
   Alias “/Enterprise_Reporting C:/Program Files/
   Symantec/Enterprise_Reporting/webcontent”

   <Directory “C:/Program Files/Symantec/
   Enterprise_Reporting/webcontent/”>
   Options Indexes FollowSymlinks
   AllowOverride None
   Order allow,deny
   Allow from all
   </Directory>
   ```

5 Save the updated httpd.conf file.

6 Stop the Apache2 service.

7 Start the Apache2 service.

Install Symantec Enterprise Reporting for IBM DB2

Note: Symantec Enterprise Reporting must connect to an HTTP Web server. If you want the computer on which you are installing Symantec Enterprise Reporting to install the Apache HTTP Web server, you must confirm that the computer does not have any Apache directories or subdirectories.

To install Symantec Enterprise Reporting

1 On the computer on which you are installing Symantec Enterprise Reporting, access the Symantec ESM Reporting Windows CD. If the autorun feature does not start, double-click **setup.bat**.

2 On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD panel, in the left pane, click **Symantec Enterprise Reporting**.

3 In the right pane, do the following tasks:

- Review the information.
- Complete the installation prerequisites.
- Click **Execute the Symantec Enterprise Reporting Installer**.

4 On the Introduction panel, click **Next**.

5 On the License Agreement panel, click **I accept the terms of the License Agreement**, and then click **Next**.

6 On the Installation Location panel, do one of the following tasks:

- To select the default folder, click **Next**.
- To select another folder, click **Choose**.
  In the Browse for Folder dialog box, select the desired folder, click **OK**, and then click **Next**.

7 On the Choose Install Set panel, do one of the following tasks:

- To select the default software installation set, click **Next**.
- If the computer on which you are installing Symantec Enterprise Reporting has already installed a Web server, uncheck the **Web Server** check box, and then click **Next**.

8 On the Shortcut Folder panel, to let all of the users see the shortcuts, check the **Make the shortcuts visible to all users** check box. Then do one of the following tasks:

- To select the default folder for the shortcuts, click **Next**.
- To specify a different folder for the shortcuts, select a folder in the list, and then click **Next**.

9 On the Choose Database Type panel, click **IBM DB2**, and then click **Next**.

10 On the Choose... panel, do one of the following tasks:

- To select a JDBC Driver, select the desired driver in the list, and then click **Next**.
- To select another JDBC Driver, click **Choose other**.
  In the Please Select Your JDBC Driver dialog box, select the JDBC Driver, and then click **Open**.

11 On the Installation Summary panel, click **Install**.

Note: After clicking Install, you cannot cancel the installation.

If you did not uncheck the Web Server check box on the Choose Install Set panel, during the installation, the Symantec Enterprise Reporting installer will warn you that it is about to install and configure the Apache HTTP Web server installer.

To install the Apache HTTP Web server for Symantec Enterprise Reporting

Note: The Apache HTTP Web server uses port 80 by default. If the computer on which you are installing the Apache Web server is already using port 80 for another application, you must manually change the Apache HTTP Web server to use a different port number. For example, port 8000 or port 8080.

1 On the Welcome to the Installation Wizard for Apache HTTP Server 2.0.49 panel, click **Next**.

2 On the License Agreement panel, click **I accept the terms in the license agreement**, and then click **Next**.

3 On the Read this First panel, click **Next**.

4 On the Server Information panel, do one of the following tasks:

- To select the default network domain, server name, administrator's email address, and port number, click **Next**. You must specify the required information that does not display by default.
- To specify a different network domain, server name, administrator's email address, or port number, specify the required information, and then click **Next**.

5 On the Setup Type panel, click **Typical**, and then click **Next**.

6 On the Destination Folder panel, do one of the following tasks:

- To select the default folder, click **Next**.
- To select another folder, click **Change.**
  In the Change Current Destination Folder panel, type the destination folder path, click **OK**, and then click **Next**.

7 On the Ready to Install the Program panel, click **Install**.

8 On the Installation Wizard Completed panel, click **Finish**.

To finish installing Symantec Enterprise Reporting

◆ On the Install Complete panel, confirm that the **Start Enterprise Reporting Configuration** check box is checked, and then click **Done**.

To configure the Symantec Enterprise Reporting database

1 In the left pane, under Data Access, right-click **Content Store**, and then click **Delete**.

2 In the left pane, under Data Access, right-click **Content Manager**, and then click **New resource > Database**.

3 In the New resource - Database dialog box, do the following tasks:

- In the Name text box, type **SER**
- In the Type list box, click **DB2 database**.

4 Click **OK**.

5 In the right pane, SER - Database - Resource Properties, click the Value text box for the User ID and password, and then click the pencil icon to the right of the Value text box.

6 In the Enter the user ID and password dialog box, do the following tasks:
   - In the User ID text box, type **ESM_CM_USER**.
   - In the Password text box, type the password of the ESM_CM_USER account.
   - In the Confirm password text box, type the password of the ESM_CM_USER account.

7 Click **OK**.

8 In the right pane, SER - Database - Resource Properties, in the Value text box for the Database name, type **SER**

9 Click the Save configuration icon on the toolbar.

10 Click **Close**.

11 Click the Start icon on the toolbar.

12 Click **Close**.

13 Exit from the Enterprise Reporting Configuration utility.

14 In the Configuration Complete, Reboot Needed dialog box, click **Yes**.

Warning: For only IBM DB2 7.2, you must wait a minimum of five minutes after the computer restarts before beginning to install the Symantec ESM Reporting Reports Package. The computer must have time to create the table spaces in the SER database.

Configure the installed Apache HTTP Web server for LDAP authentication

If you are using LDAP to authenticate users for Symantec Enterprise Reporting, you must manually configure the LDAP server for Symantec Enterprise Reporting.

To configure the installed Apache HTTP Web server for LDAP authentication

1 On the computer on which you are installing Symantec Enterprise Reporting, use a text editor to open the C:\Program Files\Apache Group\Apache2\conf\httpd.conf file.

2 In the ScriptAlias section, find the following line of text:

```
ScriptAlias “/Enterprise_Reporting/cgi-bin C:/Program Files/
Symantec/Enterprise Reporting/cgi-bin”
```

3 Immediately below that line, type the following two lines of text:

```
Alias /Enterprise_Reporting "C:/Program Files/Symantec/
Enterprise_Reporting/webcontent"
Alias /Enterprise_Reporting/help "C:/Program Files/Symantec/
Enterprise_Reporting/webcontent/documentation"
```

4 At the end of the httpd.conf file, type the following lines of text:

```
<Directory "C:/Program Files/Symantec/Enterprise_Reporting/
webcontent">
Options Indexes MultiViews
</Directory>
```

To enable LDAP name space authentication for Symantec Enterprise Reporting

Note: The following example describes the process of creating a name space using the LDAP that installs with Symantec Enterprise Security Architecture™ (SESA™).

1 On the LDAP computer on which you installed LDAP authentication, verify that the server is configured for Port 389. This port creates an insecure connection by default.

2 On the computer on which you are installing Symantec Enterprise Reporting, click **Start** > **Programs** > **Symantec Enterprise Reporting** > **Enterprise Reporting Configuration**.

3 In the left pane, under Security, right-click **Authentication**, and then click **New resource** > **Namespace**.

4 In the right pane, in the New resource - Namespace dialog box, do the following tasks:

- In the Name text box, type **ESM**
- In the Type list box, click **LDAP**.

5 Click **OK**.

6 In the right pane, under Namespace - Resource Properties, do the following tasks:

- In the Namespace ID text box, type a unique identifier for the name space. For example, type ESM
- In the Host and port text box, type the <LDAP server computer hostname>: <port number>. For example, type LDAPserver:389
- In the Base Distinguish Name text box, type the domain controller names. For example, type dc=esm, dc=ses, o=symc_ses

- In the User lookup text box, type userid=${userID}, ou=People
- In the Bind user DN and password text boxes, type the values if the LDAP authentication provider must bind to the directory server using a specific Bind user DN and password to perform searches. If no values are specified, the LDAP authentication provider binds as anonymous.
- In the Accounting mappings (Advanced) text box, change the default user name from uid to userid.
- In the remaining text boxes, select the default values.

7. In the left pane, under Security, click **Authentication**, and then click **Cognos**.
8. In the right pane, under Cognos - Namespace - Resource Properties, in the Allow anonymous access list box, select **False**.
9. Click the Save configuration icon on the tool bar.
10. In the **Enterprise Reporting Configuration** dialog box, click **Close**.
11. Click the Restart icon on the tool bar.
12. In the **Enterprise Reporting Configuration** dialog box, click **Close**.
13. Exit from the Enterprise Reporting Configuration utility.

Install the Symantec ESM Reporting Reports Package for IBM DB2

This process installs the Symantec ESM Reporting Reports Package for IBM DB2.

See “About the Reports Package installer” on page 26.

To install the Symantec ESM Reporting Reports Package for IBM DB2

1. On the computer on which you installed the Symantec Enterprise Reporting Content Manager, access the Symantec ESM Reporting Windows CD. If the autorun feature does not start, double-click **setup.bat**.
2. On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD panel, in the left pane, click **Reports Package**.
3. In the right pane, do the following tasks:
   - Review the information.
   - Complete the installation prerequisites.
   - Click the **Execute the Reports Package Installer** link.
4. On the Introduction panel, click **Next**.

5 On the License Agreement panel, click **I accept the terms of the License Agreement**, and then click **Next**.

6 On the Gateway URL panel, do the following tasks:

- Specify the URL of the Symantec Enterprise Reporting Gateway.
- To use anonymous login, check the Anonymous Login check box.
  To use LDAP or another form of user authentication, uncheck the Anonymous Login check box.

7 On the Gateway Credentials panel, do the following tasks:

- In the Security Namespace ID text box, type the Gateway Security Namespace ID.
- In the User Name text box, type the Symantec Enterprise Reporting Gateway user name.
- In the Password text box, type the Symantec Enterprise Reporting Gateway password.

8 On the Deployment Directory panel, do one of the following tasks:

- To select the default directory, click **Next**.
- To select another directory, click **Choose**.
- In the Browse for Folder dialog box, select the desired directory, click **OK**, and then click **Next**.

9 On the Database Type panel, click **DB2**, and then click **Next**.

10 On the Database Source panel, do the following tasks:

- In the DB User Name text box, type **ESM_REPORT_USER**
- In the DB Password text box, type the password of the ESM_REPORT_USER account.
- In the Database Name text box, type **ESM**

11 On the Pre-Installation Summary panel, click **Install**.

12 On the Install Complete panel, click **Done**.

To test the Symantec ESM Reporting Reports Package

1 On the computer on which you installed Symantec Enterprise Reporting, open a Web browser, and then type http://localhost/Enterprise_Reporting.

2 Select the Public Folders tab.

3 Select the Symantec ESM link.

4 Select and expand the desired query or report.

Install on Windows computers using Microsoft SQL Server

Symantec ESM Reporting can be installed on a mix of Windows and UNIX computers using an IBM DB2, Microsoft SQL Server (MS-SQL), or Oracle database server. The following procedures describe the installation of Symantec ESM Reporting on Windows computers using a Microsoft SQL Server database server.

Installing the Symantec ESM Reporting Database Foundation for MS-SQL Server

The installation process consists of doing one of the following tasks:

- Installing the Symantec ESM Reporting Database Foundation for MS-SQL.
- Using SQL scripts to create the databases for MS-SQL.

See “About the Database Foundation installer” on page 24.

Create the ESM and SER databases

When you run the Database Foundation installer and select the Default MS SQL Server option, the installer creates two databases. By default, ESM is the name of the Symantec ESM Reporting database and SER is the name of the Symantec Enterprise Reporting database. Each database has 2 GB of space.

If your installation requires larger table spaces, Symantec provides SQL scripts that let you manually create the ESM and SER databases. You must still use the Database Foundation installer to import the necessary data into the databases.

See “About Symantec ESM Reporting installation scripts” on page 281.

To install the Symantec ESM Reporting Database Foundation for MS-SQL

1. On the computer on which you installed MS-SQL, access the Symantec ESM Reporting Windows CD. If the autorun feature does not start, double-click **setup.bat**.
2. On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD panel, in the left pane, click **Database Foundation**.
3. In the right pane, do the following tasks:
   - Review the information
   - Complete the installation prerequisites
   - Click **Execute the Database Foundation Installer**
4. On the Introduction panel, click **Next**.
5. On the License Agreement panel, click **I accept the terms of the License Agreement**, and then click **Next**.

6 On the Choose Install Set panel, do one of the following tasks:

- To let the Database Foundation installer create the ESM and SER databases and import the necessary data, click **Default MS SQL Server**, and then click **Next**.

  The Symantec ESM Reporting Database Foundation installer creates the ESM and SER databases with 2 GB each for the User and Index tablespaces. If your installation requires larger tablespaces, you must manually create the ESM and SER databases, and then select the Import Data option.
- To import the necessary data into the ESM and SER databases that you manually created, click **Import Data**, and then click **Next**.

  If you select this option, the installer skips steps 7 through 14 and prompts you to choose the type of database in which to store your Symantec ESM Reporting data. Go to step 15.
- If you intend to manually create the ESM and SER databases but have not yet done so, click **Cancel**.

  Symantec provides scripts that let you manually create the ESM and SER databases. You can find the scripts on the Symantec Enterprise Security Manager (ESM) 6.1 Reporting Windows CD in the SQL directory. You can change the scripts to customize the databases for your organization.

Note: After clicking Next, if you want to select a different database option, you must cancel the Symantec ESM Reporting Database Foundation installation and start over.

7 On the Searching panel, select the desired path to the isql.exe file, and then click **Next**.

8 On the Choose... panel, do one of the following tasks:

- To select the default location, click **Next**.
- To select another location, click **Choose other**.
- In the Please Select isql.exe file dialog box, select the location, and then click **Open**.

9 Click **Next**.

10 On the Get Database Names panel, do one of the following tasks:

- To specify the default Symantec ESM Reporting Database Name and Symantec Enterprise Reporting Database Name, click **Next.**
- To specify other database names, type the names in the related text boxes, and then click **Next**.

11 On the Database Drive panel, do one of the following tasks:

- To specify the default drive, click **Next**.
- To specify another drive for the databases to store data, type the name of the drive in the text box, and then click **Next**.

12 On the Default Password panel, do the following tasks:

- In the Default Password text box, type a secure password.
- In the Confirm Default Password text box, retype the default password.

13 On the Symantec ESM Reporting database accounts panel, do one of the following tasks:

- To specify the default account name and password for the Symantec ESM Reporting Database Link account and the Symantec Enterprise Reporting account, click **Next**.
- To specify another account name or password for the Symantec ESM Reporting Database Link account or the Symantec Enterprise Reporting account, type the information in the related text boxes, and then click **Next**.

14 On the Symantec Enterprise Reporting database accounts panel, do one of the following tasks:

- To specify the default account name and password for the Content Store account, click **Next**.
- To specify another account name or password for the Content Store account, type the information in the related text boxes, and then click **Next**.

15 On the Choose Database Type panel, click **Microsoft SQL Server 2000**, and then click **Next**.

Note: If you selected **Default MS SQL Server** in step 6, the installer skips this step.

16 On the JDBC Driver panel, do one of the following tasks:

- To specify the default JDBC Driver Class, JDBC Classpath, and JDBC Library Path, click **Next**.
- To specify another JDBC Driver Class, JDBC Classpath, and JDBC Library Path, type the information in the related text boxes, and then click **Next**.

Warning: The computers on which you are installing the Symantec ESM Reporting Database Foundation must use the Microsoft JDBC driver for SQL Server 2000. Do not use third-party JDBC Drivers for the Microsoft SQL Server database.

17 On the Database Connection panel, do one of the following tasks:

- To specify the default database URL and user account name, type the password of the user account in the text box, and then click **Next**.
- To specify another database URL, user name, and password, type the information in the text boxes, and then click **Next**.

18 On the Pre-Install Summary panel, click **Install**.

Note: If the Symantec ESM Reporting Database Foundation installer reports that it cannot find the local settings directory, set the TEMP and TMP environment variables to a path that does not contain international characters. Then rerun the Symantec ESM Reporting Database Foundation installer.

19 On the Install Complete panel, click **Done.**

To manually create the ESM and SER databases for MS-SQL

See “About the installation scripts for Microsoft SQL Server” on page 285.

1 On the computer on which you installed MS-SQL, at the system command prompt, change to the Symantec ESM Reporting Windows CD.

2 Change to the sql\sqlserver folder.

3 Type **create_esm_db**

4 Type **create_ser_db**

5 Start the Symantec ESM Reporting Database Foundation installer. The process is the same as installing the Symantec ESM Reporting Database Foundation for MS-SQL except for the following change:
On the Choose Install Set panel, click **Import Data**, and then click **Next**.
See “To install the Symantec ESM Reporting Database Foundation for MS-SQL” on page 62.

6 At the system command prompt, change to the Symantec ESM Reporting Windows CD.

7 Change to the sql\sqlserver\createESMdb folder.

8 Type **post_install**

Note: If you changed the name of the ESM database in the installation scripts, you must change the name of the ESM database in the post_install.bat script.

Installing the Symantec ESM Reporting Database Link for MS-SQL

The installation process consists of installing the Symantec ESM Reporting Database Link for MS-SQL.

See “About the Database Link installer” on page 25.

To install the Symantec ESM Reporting Database Link for MS-SQL

1. On the computer on which you are installing the Symantec ESM Reporting Database Link, access the Symantec ESM Reporting Windows CD. If the autorun feature does not start, double-click **setup.bat**.
2. On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD panel, in the left pane, click **Database Link**.
3. In the right pane, do the following tasks:
   - Review the information
   - Complete the installation prerequisites
   - Click **Execute the Database Link Installer**
4. On the Introduction panel, click **Next**.
5. On the License Agreement panel, click **I accept the terms of the License Agreement**, and then click **Next**.
6. On the Choose Installation Type panel, click **Initial Installation**, and then click **Next**.
7. On the Choose Install Folder panel, do one of the following tasks:
   - To select the default location, click **Next**.
   - To select another location, click **Choose**.
     In the Browse for Folder dialog box, select the desired location, click **OK**, and then click **Next**.

   Note: If you select the ..\Symantec\ESM folder, uninstalling Symantec ESM will remove the Symantec ESM Reporting Database Link.

8. On the Database Type Selection panel, click **MS SQL Server 2000**, and then click **Next**.

9 On the JDBC Driver Information panel, do one of the following tasks:

- To specify the default JDBC Driver Class, JDBC Classpath, JDBC Library Path, and SQL Dialect, click **Next**.
- To specify another JDBC Driver Class, JDBC Classpath, JDBC Library Path, and SQL Dialect, type the information in the related text boxes, and then click **Next**.

  See the JDBC Driver documentation.

Warning: The computers on which you are installing the Symantec ESM Reporting Database Link must use third-party JDBC Drivers for the Microsoft SQL Server database. Do not use the Microsoft JDBC driver for SQL Server 2000. See "System requirements" on page 29.

---

10 On the Database Connection panel, do one of the following tasks:

- To specify the default database URL, type the user name and password of the ESM_DB_LINK_USER account in the related text boxes, and then click **Next**.
- To specify another database URL, user name, and password, type the information in the related text boxes, and then click **Next**.

11 On the ESM Manager Connection panel, do the following tasks:

- Type the name of the Symantec ESM Manager.
- Type the user name of an account on the manager with manage user rights and read-only access rights to all domains, policies, and templates.
- Type the password of the manager account.
- Specify the port number of the manager.
- Click the right-arrow to add the manager to the list.

Optionally, repeat these steps to let the Symantec ESM Reporting Database Link connect to another Symantec ESM Manager.

Warning: Do not connect two Symantec ESM Reporting Database Links to the same Symantec ESM Manager and database. The database link log will report primary key failures.

If you specify connections to several Symantec ESM Managers during the installation of a Symantec ESM Reporting Database Link, a race condition may cause some ESM database errors during the initial transfer of data. You can correct the errors by stopping and restarting the Symantec ESM Reporting Database Link.

See "Checking the Symantec ESM Reporting Database Link log for errors" on page 101.

---

12 On the Pre-Install Summary panel, click **Install**.

13 On the Install Complete panel, click **Done**.

Note: In the C:\Program Files\Symantec\Reporting_Database_Link\server\default\conf\log4j.xml file, the default settings limit the Symantec ESM Reporting Database Link log file to a maximum file size of 50 MB and three backups. You can change the MaxFileSize value to increase the file size and the MaxBackupIndex value to increase the number of backup files.

Installing Symantec Enterprise Reporting for MS-SQL

The installation process includes the following tasks:

- Configure an installed Apache HTTP Web server for Symantec Enterprise Reporting.
- Install Symantec Enterprise Reporting for MS_SQL.
- Configure the installed Apache HTTP Web server for LDAP authentication.

Configure an installed Apache HTTP Web server for Symantec Enterprise Reporting

If the computer on which you are installing Symantec Enterprise Reporting has already installed an Apache HTTP Web server, you must manually configure the Web server for Symantec Enterprise Reporting.

To configure the installed Apache HTTP Web server for Symantec Enterprise Reporting

◆ On the computer on which you are installing Symantec Enterprise Reporting, configure the installed Apache HTTP Web server.

See “Configure an installed Apache HTTP Web server for Symantec Enterprise Reporting” on page 53.

Install Symantec Enterprise Reporting for MS_SQL

Note: If you want the computer on which you are installing Symantec Enterprise Reporting to install an Apache HTTP Web server, confirm that the computer does not have any Apache directories or subdirectories.

To install Symantec Enterprise Reporting

1. On the computer on which you are installing Symantec Enterprise Reporting, access the Symantec ESM Reporting Windows CD. If the autorun feature does not start, double-click **setup.bat**.
2. On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD panel, in the left pane, click **Symantec Enterprise Reporting**.
3. In the right pane, do the following tasks:
   - Review the information.
   - Complete the installation prerequisites.
   - Click **Execute the Symantec Enterprise Reporting Installer**
4. On the Introduction panel, click **Next**.
5. On the License Agreement panel, click **I accept the terms of the License Agreement**, and then click **Next**.
6. On the Installation Location panel, do one of the following tasks:
   - To select the default folder, click **Next**.
   - To select another folder, click **Choose**.
     In the Browse for Folder dialog box, select the desired folder, click **OK**, and then click **Next**.
7. On the Choose Install Set panel, do one of the following tasks:
   - To select the default software installation set, click **Next**.
   - If the computer on which you are installing Symantec Enterprise Reporting has already installed a Web server, uncheck the Web Server check box, and then click **Next**.
8. On the Shortcut Folder panel, do the following tasks:
   - To specify a different folder for the shortcuts, select a folder in the list.
   - To let the users see the shortcuts, check **Make the shortcuts visible to all users**.
9. Click **Next**.
10. On the Choose Database Type panel, click **MS SQL Server 2000**, and then click **Next**.
11. On the Installation Summary panel, click **Install**.

    Note: After clicking Install, you cannot cancel the installation.

To install the Apache HTTP Web server for Symantec Enterprise Reporting

Note: If you do not uncheck the Web Server check box, the Symantec Enterprise Reporting installer automatically starts up the Apache HTTP Web server installer.

The Apache HTTP Web server uses port 80 by default. If the computer on which you are installing the Apache Web server is already using port 80 for another application, you must manually change the Apache HTTP Web server to use a different port number. For example, port 8000 or port 8080.

See “To install the Apache HTTP Web server for Symantec Enterprise Reporting” on page 56.

To finish installing Symantec Enterprise Reporting

- On the Install Complete panel, confirm that the **Start Enterprise Reporting Configuration** check box is checked, and then click **Done**.

To configure the Symantec Enterprise Reporting database

1. In the left pane, under Data Access, right-click **Content Store**, and then click **Delete**.
2. In the left pane, under Data Access, right-click **Content Manager**, and then click **New resource > Database**.
3. In the New resource - Database dialog box, do the following tasks:
   - In the Name text box, type **SER.**
   - In the Type list box, click **Microsoft SQL Server database**.
4. Click **OK**.
5. In the right pane, SER - Database - Resource Properties, click the Value text box for the User ID and password, and then click the pencil icon to the right of the Value text box.
6. In the Enter the user ID and password dialog box, do the following tasks:
   - In the User ID text box, type **ESM_CM_USER**
   - In the Password text box, type the password of the ESM_CM_USER account.
   - In the Confirm password text box, type the password of the ESM_CM_USER account.
7. Click **OK**.
8. In the right pane, SER - Database - Resource Properties, in the Value text box for the Database name, type **SER**

9. Click the Save configuration icon on the toolbar.
10. Click **Close**.
11. Click the Start icon on the toolbar.
12. Click **Close**.
13. Close the Enterprise Reporting Configuration utility.

Configure the installed Apache HTTP Web server for LDAP authentication

- If you are using LDAP to authenticate users for Symantec Enterprise Reporting, you must manually configure the LDAP server for Symantec Enterprise Reporting.

To configure the installed Apache HTTP Web server for LDAP authentication

- See "Configure the installed Apache HTTP Web server for LDAP authentication" on page 58.

To enable LDAP name space authentication for Symantec Enterprise Reporting

- See "To enable LDAP name space authentication for Symantec Enterprise Reporting" on page 59.

Enable LDAP Secure Socket Layer (SSL) on Windows for Oracle

1. On the LDAP computer on which you installed LDAP authentication, log on using an account with rights to change SSL status.
2. In the left pane, under Security, click **SSL**, and then click **Settings**.
3. In the right pane, under SSL status, click **SSL on**.
4. Click **Update**.
5. Restart the host computer system.

Note: If you install SSL on the Solaris computer on which you installed Symantec Enterprise Reporting and you set up signed certificates on the SSL server for Symantec Enterprise Reporting to use, then no changes are required for Symantec Enterprise Reporting on Solaris to use LDAP on Windows. See the *Installation and Configuration Guide* in the Docs/Symantec Enterprise Reporting directory on the CD installation set.

Install the Symantec ESM Reporting Reports Package for MS-SQL

The installation process includes the following tasks:

- To install the Symantec ESM Reporting Reports Package for MS-SQL
- To test the Symantec ESM Reporting Reports Package

To install the Symantec ESM Reporting Reports Package for MS-SQL

◆ On the computer on which you installed the Symantec Enterprise Reporting Content Manager, install the Symantec ESM Reporting Reports Package.

The process is the same as installing the Symantec ESM Reporting Reports Package for IBM DB2 except for the following change:

On the Database Type panel, click **Microsoft SQL Server 2000**, and then click **Next**.

See "To install the Symantec ESM Reporting Reports Package for IBM DB2" on page 60.

See "About the Reports Package installer" on page 26.

To test the Symantec ESM Reporting Reports Package

See "To test the Symantec ESM Reporting Reports Package" on page 61.

Install on Windows computers using Oracle

Symantec ESM Reporting can be installed on a mix of Windows and UNIX computers using an IBM DB2, Microsoft SQL Server (MS-SQL), or Oracle database server. The following procedures describe the installation of Symantec ESM Reporting on Windows computers using an Oracle database server on a Solaris computer.

Installing the Symantec ESM Reporting Database Foundation for Oracle

The installation process includes the following tasks:

- Configure the environment variables for the Oracle user.
- Install the Symantec ESM Reporting Database Foundation for Oracle.

Configure the environment variables for the Oracle user

See "To configure the environment variables for the Oracle user" on page 76.

Install the Symantec ESM Reporting Database Foundation for Oracle

See “Install the Symantec ESM Reporting Database Foundation for Oracle” on page 76.

Installing the Symantec ESM Reporting Database Link on Windows for Oracle

The installation process includes the following tasks:

- Install, connect, and test the Oracle JDBC Drivers for the Symantec ESM Reporting Database Link.
- Install the Symantec ESM Reporting Database Link on Windows for Oracle.

Install, connect, and test the Oracle JDBC Drivers for the Symantec ESM Reporting Database Link

Symantec does not provide JDBC Drivers for the Oracle database server. You can download Oracle JDBC Drivers from the Sun Microsystems Web site at http://servlet.java.sun.com/products/jdbc/drivers.

On the computer on which you are installing the Symantec ESM Reporting Database Link, download, install, connect, and test the Oracle JDBC Drivers.

Install the Symantec ESM Reporting Database Link on Windows for Oracle

On the computer on which you are installing the Symantec ESM Reporting Database Link, access the Symantec ESM Reporting Windows CD. The process is the same as installing the Symantec ESM Reporting Database Link for IBM DB2 except on the Database Type Selection panel, click **Oracle**, **Next**.

See “To install the Symantec ESM Reporting Database Link for IBM DB2” on page 49.

Installing Symantec Enterprise Reporting on Windows for Oracle

The installation process includes the following tasks:

- Configure the environment variables for Symantec Enterprise Reporting.
- Install, connect, and test the Oracle JDBC Drivers for Symantec Enterprise Reporting.
- Install Symantec Enterprise Reporting on Windows for Oracle.
- Install the Apache HTTP server for Symantec Enterprise Reporting.
- Finish installing Symantec Enterprise Reporting on Windows for Oracle.
- Configure the Symantec Enterprise Reporting database.

Configure the environment variables for Symantec Enterprise Reporting

See "To configure the environment variables for Symantec Enterprise Reporting" on page 83.

Install, connect, and test the Oracle JDBC Drivers for Symantec Enterprise Reporting

Symantec does not provide JDBC Drivers for the Oracle database server. You can download Oracle JDBC Drivers from the Sun Microsystems Web site at http://servlet.java.sun.com/products/jdbc/drivers.

On the computer on which you are installing Symantec Enterprise Reporting, download, install, connect, and test the Oracle JDBC Drivers.

Install Symantec Enterprise Reporting on Windows for Oracle

Perform the installation of Symantec Enterprise Reporting on Windows computers using DB2 except on the Choose Database Type panel, click **Oracle**, **Next**.

See "To install Symantec Enterprise Reporting" on page 55.

Install the Apache HTTP server for Symantec Enterprise Reporting

See "To install the Apache HTTP Web server for Symantec Enterprise Reporting" on page 56.

Finish installing Symantec Enterprise Reporting on Windows for Oracle

See "To finish installing Symantec Enterprise Reporting" on page 57.

Configure the Symantec Enterprise Reporting database

Perform the configuration of the Symantec Enterprise Reporting database on Windows computers using DB2 except on the New resource - Database dialog box, in the Type list box, click **Oracle database**, and then click **Next**.

See "To configure the Symantec Enterprise Reporting database" on page 57.

Configure the installed Apache HTTP Web server for LDAP authentication

See "To configure the installed Apache HTTP Web server for LDAP authentication" on page 58.

Enable LDAP name space authentication for Symantec Enterprise Reporting

See "To enable LDAP name space authentication for Symantec Enterprise Reporting" on page 59.

Install the Symantec ESM Reporting Reports Package for Oracle

See “To install the Symantec ESM Reporting Reports Package for Oracle” on page 90.

Installing on UNIX computers using Oracle

Symantec ESM Reporting can install on a mix of Windows and UNIX computers using IBM DB2, Microsoft SQL Server (MS-SQL), or Oracle database server. The following procedures describe the installation on Solaris using Oracle.

Installing the Symantec ESM Reporting Database Foundation for Oracle

The installation process includes the following tasks:

- Configure the environment variables for the Oracle user.
- Install the Symantec ESM Reporting Database Foundation for Oracle.
- Using SQL scripts to create the databases for Oracle.
  See “About the Database Foundation installer” on page 24.

Create the ESM and SER databases

When you run the Database Foundation installer and select the Default Oracle option, the installer creates two databases. By default, ESM is the name of the Symantec ESM Reporting database and SER is the name of the Symantec Enterprise Reporting database. Each database has 2 GB for User and Index tablespaces.

If your installation requires larger table spaces, Symantec provides SQL scripts that let you manually create the ESM and SER databases. These scripts also import the necessary data into the databases. After the scripts finish importing data, you must run an additional SQL script to tune the database.

See “About Symantec ESM Reporting installation scripts” on page 281.

Configure the environment variables for the Oracle user

Environment variables provide critical information for the Oracle user.

To configure the environment variables for the Oracle user

- On the computer on which you installed Oracle, in the .profile file for the Oracle user, ensure that the following environment variables are set:

Table 3-1 New environment variables

Variable name	Description
ORACLE_BASE	The full path name to the base directory for all Oracle versions.
ORACLE_HOME	The full path name to the directory that contains the database client software or the entire database installation.
ORACLE_SID	The Oracle Server system identifier or instance name.

Note: Ensure that the Oracle user has its shell set to /bin/sh. This is the shell that applies to the .profile file for the Oracle user.

Install the Symantec ESM Reporting Database Foundation for Oracle

See "About the Database Foundation installer" on page 24.

To install the Symantec ESM Reporting Database Foundation for Oracle

Note: If you perform a custom installed of the ESM and SER databases, use the database names that you assign instead of the default database names when installing the Symantec ESM Reporting Database Link, Symantec Enterprise Reporting, and Symantec ESM Reporting Reports Package.

1. On the computer on which you installed Oracle, access the Symantec ESM Reporting Solaris CD. At the system command prompt, type **setup.sh**
2. On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD panel, in the left pane, click **Database Foundation**.
3. In the right pane, do the following tasks:
   - Review the information
   - Complete the installation prerequisites
   - Click **Execute the Database Foundation Installer**
4. On the Introduction panel, click **Next**.
5. On the License Agreement panel, click **I accept the terms of the License Agreement**, and then click **Next**.

6 On the Choose Install Set panel, do one of the following tasks:

- To let the Database Foundation installer create the ESM and SER databases and import the necessary data, click **Default Oracle**, and then click **Next**.
- To import data into the ESM and SER databases, click **Import Data**, and then click **Next**.

  For Oracle only, do not select this option. The SQL scripts import the necessary data automatically after creating the ESM and SER databases.

  If you select this option, the installer skips steps 7 through 10 and prompts you to choose the type of database in which to store your Symantec ESM Reporting data. Go to step 11.
- If you intend to manually create the ESM and SER databases but have not yet done so, click **Cancel**.

  Symantec provides scripts that let you manually create the ESM and SER databases. You can find the scripts on the Symantec Enterprise Security Manager (ESM) 6.1 Reporting Windows CD in the SQL directory. You can change the scripts to customize the databases for your organization.

Note: After clicking Next, if you want to select a different database option, you must cancel the Symantec ESM Reporting Database Foundation installation and start over.

7 On the Get Database Names panel, do the following tasks:

- In the Symantec ESM Reporting database text box, type **ESM**
- In the Symantec Enterprise Reporting database text box, type **SER**

8 On the Default Password panel, do the following tasks:

- In the Default Password text box, type a secure password.
- In the Confirm Default Password text box, retype the default password.

9 On the Symantec ESM Reporting database accounts panel, do one of the following tasks:

- To specify the default password for the Sys and System built-in accounts, and the default account name and password for the Symantec ESM Reporting Database Link account and the Symantec Enterprise Reporting account, click **Next**.
- To specify another password for the Sys or System built-in accounts, or the account name and password for the Symantec ESM Reporting Database Link account or the Symantec Enterprise Reporting account, type the information in the related text boxes, and then click **Next**.

10 On the Symantec Enterprise Reporting database accounts panel, do one of the following tasks:

- To specify the default password for the Sys and System built-in accounts, and the default account name and password for the Content Store account, click **Next**.
- To specify another password for the Sys or System built-in accounts, or the account name and password for the Content Store account, type the information in the related text boxes, and then click **Next**.

11 On the Choose Database Type panel, click **Oracle**, and then click **Next**.

Note: If you selected Default Oracle in step 6, the installer skips this step.

12 On the JDBC Driver panel, do one of the following tasks:

- To specify the default JDBC Driver Class, JDBC Classpath, and JDBC Library Path, replace <ORACLE_HOME> with the ORACLE_HOME directory, and then click **Next**.
- To specify another JDBC Driver Class, JDBC Classpath, and JDBC Library Path, type the information in the related text boxes, and then click **Next**.

13 On the Database Connection panel, do one of the following tasks:

- To specify the default database URL and user name, type the password of the user account in the text box, and then click **Next**.
- To specify another database URL, user name, and password, type the information in the related text boxes, and then click **Next**.

14 On the Pre-Install Summary panel, click **Install**.

Note: If the Symantec ESM Reporting Database Foundation installer reports that it cannot find the local settings directory, set the TEMP and TMP environment variables to a path that does not contain international characters. Then rerun the Symantec ESM Reporting Database Foundation installer.

15 On the Install Complete panel, click **Done**.

Note: During the installation of the Symantec ESM Reporting Database Foundation, the installer creates an Oracle user account. This account is not intended for users. The purpose of the account is to provide a schema name. The account has full access to all of the database tables but does not have connect privileges or a password. The installer deactivates the account to prevent unauthorized access.

To manually create the ESM and SER databases for Oracle

See “About the installation scripts for Oracle” on page 287.

1. On the computer on which you installed Oracle, at the system command prompt, change to the Symantec ESM Reporting Solaris CD.
2. Change to the sql/oracle directory.
3. Type **create_esm_db.sh**
4. Type **create_ser_db.sh**
5. Type **./populate_esm_db.sh <system_user> <password> <database_name>**
6. Type **./post_install.sh <system_user> <password> <database_name>**

Note: ESM is the default <database_name>.

To enable redo log archival for the Symantec ESM Reporting database and Symantec Enterprise Reporting database

1. Modify the initESM.ora file.
   - In a text editor, open the initESM.ora file and type
     log_archive_start=true
     log_archive-dest_1 = 'location = /u01/oradata/ESM/arch'
   - Save and close the initESM.ora file.
   - Verify that the archive directory exists and if it does not, change to Oracle user, and then type
     mkdir /u01/oradata/ESM/arch
2. Modify the initSER.ora file.
   - In a text editor, open the initSER.ora file and type
     log_archive_start=true
     log_archive-dest_1 = 'location = /u01/oradata/SER/arch'
   - Save and close the initSER.ora file.
   - Verify that the archive directory exists and if it does not, change to Oracle user, and then type
     mkdir /u01/oradata/SER/arch

3. Shut down and restart the Oracle database that supports the ESM database and the SER database.
   - Open a Terminal window to the ESM database and SER database computer as Oracle user and type
     sqlplus /nolog
   - At the sqlplus prompt, type
     connect / as sysdba
     shutdown immediately
     startup mount
4. Change the Oracle database to enable redo log archival.
   - Open a Terminal window to the ESM database and SER database computer as Oracle user and type
     sqlplus /nolog
   - At the sqlplus prompt, type
     alter database archivelog;
     alter database open;
     archive log list

Installing the Symantec ESM Reporting Database Link for Oracle

The installation process includes the following tasks:

- Install the Oracle JDBC Drivers for the Symantec ESM Reporting Database Link.
- Install the Symantec ESM Reporting Database Link for Oracle.

Install the Oracle JDBC Drivers for the Symantec ESM Reporting Database Link

Symantec does not provide JDBC Drivers for the Oracle database server. You can download Oracle JDBC Drivers from the Sun Microsystems Web site at http://servlet.java.sun.com/products/jdbc/drivers.

To install the Oracle JDBC Drivers for the Symantec ESM Reporting Database Link

◆ On the computer on which you are installing the Symantec ESM Reporting Database Link, download and install the Oracle 9i JDBC Drivers.

Warning: The net and app JDBC Drivers for IBM DB2, MS-SQL, and Oracle can send user names, passwords, and other sensitive information in clear text form across your network.

To secure the JDBC Driver connections, use encrypted third-party JDBC Drivers. If your database computers are in a physically secure location, you can isolate the JDBC Driver connections by setting up a dual home host through a physically secure segment of the network. The connection can pass sensitive information in clear text but unauthorized personnel cannot access it.

Install the Symantec ESM Reporting Database Link for Oracle

See "About the Database Link installer" on page 25.

To install the Symantec ESM Reporting Database Link

1. On the computer on which you are installing the Symantec ESM Reporting Database Link, access the Symantec ESM Reporting Solaris CD. At the system command prompt, type **setup.sh**
2. On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD panel, in the left pane, click **Database Link**.
3. In the right pane, do the following tasks:
   - Review the information
   - Complete the installation prerequisites
   - Click **Execute the Database Link Installer**
4. On the Introduction panel, click **Next**.
5. On the License Agreement panel, click **I accept the terms of the License Agreement**, and then click **Next**.
6. On the Choose Installation Type panel, click **Initial Installation**, and then click **Next**.
7. On the Choose Install Folder panel, do one of the following tasks:
   - To select the default location, click **Next**.
   - To select another location, click **Choose**.
   - In the Browse for Folder dialog box, select the desired location, click **OK**, and then click **Next**.

   Note: If you select the ../Symantec/ESM directory, uninstalling Symantec ESM will remove the Symantec ESM Reporting Database Link.
8. On the Database Type Selection panel, click **Oracle**, and then click **Next**.

9. On the JDBC Driver Information panel, do one of the following tasks:
   - To specify the default JDBC Driver Class, JDBC Classpath, JDBC Library Path, and SQL Dialect, click **Next**.
   - To specify another JDBC Driver Class, JDBC Classpath, JDBC Library Path, and SQL Dialect, type the information in the related text boxes, and then click **Next**.
10. On the Database Connection panel, do one of the following tasks:
    - To specify the default database URL, type the user name and password of the Oracle account in the related text boxes, and then click **Next**.
    - To specify another database URL, user name, and password, type the information in the related text boxes, and then click **Next**.
11. On the ESM Manager Connection panel, do the following tasks:
    - Type the name of the Symantec ESM Manager.
    - Type the user name of an account on the manager with manage user rights and read only access rights to all domains, policies, and templates.
    - Type the password of the manager account.
    - Specify the port number of the manager.
    - Click the right-arrow to add the manager to the list.

    Optionally, repeat these steps to let the Symantec ESM Reporting Database Link connect to another Symantec ESM Manager.

    Warning: Do not connect two Symantec ESM Reporting Database Links to the same Symantec ESM Manager and database. The database link log will report primary key failures.

    If you specify connections to several Symantec ESM Managers during the installation of a Symantec ESM Reporting Database Link, a race condition may cause some ESM database errors during the initial transfer of data. You can correct the errors by stopping and restarting the Symantec ESM Reporting Database Link.

    See “Checking the Symantec ESM Reporting Database Link log for errors” on page 101.
12. On the Pre-Install Summary panel, click **Install**.
13. On the Install Complete panel, click **Done**.

Note: In the /opt/Symantec/Reporting_Database_Link/server/default/conf/log4j.xml file, the default settings limit the Symantec ESM Reporting Database Link log file to a maximum file size of 50 MB and three backups. You can change the MaxFileSize value to increase the file size and the MaxBackupIndex value to increase the number of backup files.

Installing Symantec Enterprise Reporting for Oracle

The installation process includes the following tasks:

- Configure the environment variables for Symantec Enterprise Reporting.
- Install the Oracle run-time client for Symantec Enterprise Reporting.
- Install the Apache HTTP Web server for Symantec Enterprise Reporting.
- Install Symantec Enterprise Reporting for Oracle.
- Configure the installed Apache HTTP Web server for LDAP authentication.

Configure the environment variables for Symantec Enterprise Reporting

Environment variables provide critical information during the installation of Symantec Enterprise Reporting.

To configure the environment variables for Symantec Enterprise Reporting

◆ On the computer on which you are installing Symantec Enterprise Reporting, ensure that the owner has set up the following environment variables:

Table 3-2 New environment variables

Variable name	Description
ORACLE_HOME	The full path name to the directory that contains the database client software or the entire database installation.
TNS_ADMIN	The path name to the tns files including tnsnames.ora. This file calls the Oracle database to determine the required server connections.
LD_LIBRARY_PATH	The path name to the directory that contains the Oracle library files.
NLS_LANG	The setting that provides support for multilingual databases. Its three components are language, territory, and character set. Ensure that the character set is UTF8, UTF16, AL32UTF8, or 16UTF16.

Table 3-2 New environment variables

Variable name	Description
JAVA_HOME	The path name to the directory that contains Java 1.3.1_07.

Install the Oracle run-time client for Symantec Enterprise Reporting

Symantec does not provide an Oracle run-time client for the Symantec Enterprise Reporting database.

To install the Oracle run-time client for the Symantec Enterprise Reporting database

1. On the computer on which you are installing Symantec Enterprise Reporting, access the Oracle installation CD, and then perform an Oracle 9i client installation.
2. Click **Runtime**, and then click **Next**.
3. Click **Install**, and then click **Next**.

To configure and test the Oracle run-time client for the Symantec ESM Reporting data base

1. On the computer on which you are installing Symantec Enterprise Reporting, run Net Manager.
2. Click **Service Naming**.
3. Click **Create**.
4. In the Service name text box, type **ESM**, and then click **Next**.
5. In the Select a communications protocol, click **TCP/IP** and then click **Next**.
6. Type the name of the database computer, and then click **Next**.
7. In the service name text box, type **sid**, and then click **Next**.
8. In the Test Connection dialog box, on the Connections tab, do the following tasks:
   - In the User ID text box, type **ESM_REPORT_USER**
   - In the Password text box, type the ESM_REPORT_USER password.
   - Click **Test Connection**.
9. In the Test Connection dialog box, on the Results tab, verify that the CLI connection was successful.
10. Exit from the Net Configuration Manager.

Install the Apache HTTP Web server for Symantec Enterprise Reporting

Symantec does not provide a Web server for Symantec Enterprise Reporting. You can download the latest Web server binary from the Apache HTTP Server Web site at http://httpd.apache.org/download.cgi.

Note: The Apache HTTP Web server uses port 80 by default. If the computer on which you are installing the Apache Web server is already using port 80 for another application, you must manually change the Apache HTTP Web server to use a different port number. For example, port 8000 or port 8080.

To install the Apache HTTP server for Symantec Enterprise Reporting

- See "To install the Apache HTTP Web server for Symantec Enterprise Reporting" on page 56.

To configure the Apache HTTP server for Symantec Enterprise Reporting

1 On the computer on which you installed the Apache HTTP server, use a text editor to open the ../apache group/apache2/conf/httpd.conf file.

2 In the ScriptAlias section, find the following line of text:

```
ScriptAlias /cgi-bin/ "/usr/local/apache group/apache2/cgi-bin/"
```

3 Immediately below this line, type the following two lines of text:

```
ScriptAlias ../Enterprise_Reporting/cgi-bin/ "/opt/Symantec/
Enterprise_Reporting/cgi-bin/"
ScriptAlias ../Enterprise_Reporting/cgi-bin "/opt/Symantec/
Enterprise_Reporting/cgi-bin"
```

4. At the end of the httpd.conf file, type the following lines of text:

   ```
   <Directory "/opt/Symantec/Enterprise_Reporting/cgi-bin/">
   Options Indexes FollowSymlinks
   AllowOverride None
   Order allow,deny
   Allow from all
   </Directory>

   Alias /Enterprise_Reporting/help/ "/opt/Symantec/
   Enterprise_Reporting/webcontent/documentation/"
   <Directory
   "/opt/Symantec/Enterprise_Reporting/webcontent/documentation/">
   Options Indexes FollowSymlinks
   AllowOverride None
   Order allow,deny
   Allow from all
   </Directory>

   Alias /Enterprise_Reporting/ "/opt/Symantec/
   Enterprise_Reporting/webcontent/"
   Alias /Enterprise_Reporting "/opt/Symantec/
   Enterprise_Reporting/webcontent"

   <Directory "/opt/Symantec/Enterprise_Reporting/webcontent/">
   Options Indexes FollowSymlinks
   AllowOverride None
   Order allow,deny
   Allow from all
   </Directory>
   ```

5. Save the updated httpd.conf file.

6. Stop the Apache2 daemon.

7. Start the Apache2 daemon.

Install Symantec Enterprise Reporting for Oracle

See “About the Symantec Enterprise Reporting installer” on page 25.

To install Symantec Enterprise Reporting

Note: Symantec ESM Reporting file names use Rock Ridge Extensions. See “System requirements” on page 29.

1. On the computer on which you are installing Symantec Enterprise Reporting, access the Symantec ESM Reporting Solaris CD. At the system command prompt, type **setup.sh**

2 On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD panel, in the left pane, click **Symantec Enterprise Reporting**.

3 In the right pane, do the following tasks:

- Review the information.
- Complete the installation prerequisites.
- Click **Execute the Symantec Enterprise Reporting Installer**

4 On the Introduction panel, click **Next**.

5 On the License Agreement panel, click **I accept the terms of the License Agreement**, and then click **Next**.

6 On the Installation Location panel, do one of the following tasks:

- To select the default location, click **Next**.
- To select another location, click **Choose**.
  In the Browse for Folder dialog box, select the desired location, click **OK**, and then click **Next**.

7 On the Choose Install Set panel, specify the default components, and then click **Next**.

8 On the Shortcut Folder panel, do the following tasks:

- Specify the default program folder.
- Check the Make the shortcuts visible check box if you want the users to see the shortcuts.

9 Click **Next**.

10 On the Choose Database Type panel, click **Oracle**, and then click **Next**.

11 On the Choose JDBC Driver panel, do one of the following tasks:

- To select a JDBC Driver, select the desired driver in the list, and then click **Next**.
- To select another JDBC Driver, click **Choose other**.
  In the Please Select Your JDBC Driver dialog box, select the JDBC Driver, and then click **Open**.

12 On the Installation Summary panel, click **Install**.

Note: On Solaris computers, the free disk space requirements for Symantec Enterprise Reporting do not change when you select different components. After clicking Install, you cannot cancel the installation.

To finish installing Symantec Enterprise Reporting

- On the Install Complete panel, confirm that the Start Enterprise Reporting Configuration check box is checked, and then click **Done**.

To configure the Symantec Enterprise Reporting database

1. In the left pane, under Data Access, right-click **Content Store**, and then click **Delete**.
2. In the left pane, under Data Access, right-click **Content Manager**, and then click **New resource > Database**.
3. In the New resource - Database dialog box, do the following tasks:
   - In the Name text box, type **SER.**
   - In the Type list box, click **Oracle database**.
4. Click **OK**.
5. In the right pane, SER - Database - Resource Properties, click the Value text box for the User ID and password, and then click the pencil icon to the right of the Value text box.
6. In the Enter the user ID and password dialog box, do the following tasks:
   - In the User ID text box, type **ESM_CM_USER**.
   - In the Password text box, type the password of the ESM_CM_USER account.
   - In the Confirm password text box, type the password of the ESM_CM_USER account.
7. Click **OK**.
8. In the right pane, SER - Database - Resource Properties, in the Value text box for the Database name, type **SER**
9. Click the Save configuration icon on the toolbar.
10. Click **Close**.
11. Click the Start icon on the toolbar.
12. Click **Close**.
13. Exit the Enterprise Reporting Configuration utility.

To start the ReportNet Service for Symantec Enterprise Reporting

1. On the computer on which you installed Symantec Enterprise Reporting, at the system command prompt, change to the /opt/Symantec/Enterprise_Reporting/bin directory.
2. Type **crnctl.sh start**

Configure the installed Apache HTTP Web server for LDAP authentication

If you are using LDAP to authenticate users for Symantec Enterprise Reporting, you must manually configure the LDAP server for Symantec Enterprise Reporting.

To configure the installed Apache HTTP Web server for LDAP authentication

---

Note: If you are using LDAP to authenticate users for Symantec Enterprise Reporting, you must manually configure the LDAP server for Symantec Enterprise Reporting.

---

1. On the computer on which you installed the Apache HTTP server, use a text editor to open the .../apache group/apache2/conf/httpd.conf file.
2. In the ScriptAlias section, find the following line of text:
   ```
   ScriptAlias .. /Enterprise_Reporting/cgi-bin “/opt/Symantec/
   Enterprise_Reporting/cgi-bin”
   ```
3. Immediately below this line, type the following two lines of text:
   ```
   Alias ../Enterprise_Reporting “/opt/Symantec/
   Enterprise_Reporting/webcontent”
   Alias .. /Enterprise_Reporting/help “/opt/Symantec/
   Enterprise_Reporting/webcontent/documentation”
   ```
4. At the end of the httpd.conf file, type the following lines of text:
   ```
   <Directory “/opt/Symantec/Enterprise_Reporting/webcontent/”>
   Options Indexes MultiViews
   </Directory>
   ```

To enable LDAP name space authentication for Symantec Enterprise Reporting

---

Note: If you are using LDAP to authenticate users for Symantec Enterprise Reporting, you must manually configure the LDAP server for Symantec Enterprise Reporting.

◆ See “To enable LDAP name space authentication for Symantec Enterprise Reporting” on page 59.

Install the Symantec ESM Reporting Reports Package for Oracle

The installation process includes the following task:

- Install and test the Symantec ESM Reporting Reports Package for Oracle.

Install and test the Symantec ESM Reporting Reports Package for Oracle

See "About the Reports Package installer" on page 26.

To install the Symantec ESM Reporting Reports Package for Oracle

- ◆ On the computer on which you installed the Symantec Enterprise Reporting Content Manager, install the Symantec ESM Reporting Reports Package. The process is the same as installing the Symantec ESM Reporting Reports Package for IBM DB2 except for the following change:

  On the Database Type panel, click **Oracle**, and then click **Next**.

  See "To install the Symantec ESM Reporting Reports Package for IBM DB2" on page 60.

To test the Symantec ESM Reporting Reports Package

See "To test the Symantec ESM Reporting Reports Package" on page 61.

Silently installing the Symantec ESM Reporting Database Link

You can silently install the Symantec ESM Reporting Database Link on a computer that has a Windows or UNIX operating system. You must run the silent installation program from the command prompt on the host computer.

Note: If you perform a custom installation of the ESM database, use the database name that you assign instead of the default database name in the response file when silently installing the Symantec ESM Reporting Database Link.

The installation program uses a response file to provide necessary information. On the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD for each operating system, see the sample SilentInstallExample.properties file in the database_link directory.

You can use any text editor to set the values of the variables in the properties file. The values must correspond to the settings for your host computers and database server:

- Set the values of the variables using the syntax: <variable name>=<value>. Do not put a space before or after the equal sign.
- Precede the backslash characters that are commonly found in the file paths on Microsoft Windows with another backslash.
- Do not change the names of any variables except when you are connecting the Reporting Database Link to multiple managers. You can specify multiple managers by having each manager use the next higher number than the previous manager in its variable names.

- Do not delete any variables in the file. Leave the value blank if you do not want it set.

Table 3-3 lists the valid values that you can set for the variables in the properties file.

Table 3-3 Properties file values

Variable name	Valid values	Syntax
INSTALLER_UI	Silent: Do not change this value.	INSTALLER_UI=silent
CHOSEN_INSTALL_SET	Initial: Installs the Reporting Database Link on a host computer for the first time. Update: Changes the manager credentials, database, or database credentials for the installed Reporting Database Link.	CHOSEN_INSTALL_SET=Initial

USER_INSTALL_DIR	Set to the directory where you want the Reporting Database Link to install.	Windows example:
		USER_INSTALL_DIR= c:\\Program Files\\Symantec\\ ESM Reporting Database Link
		UNIX example:
		USER_INSTALL_DIR=/opt/ Symantec/ Reporting_Database_Link

DB2
ORACLE
SQL_SERVER
CUSTOM_DB
	Set the variable to 1 for the type of database where you want the Reporting Database Link to send data. Set the other variables to 0.	DB2 example:
		DB2=1
		ORACLE=0
		SQL_SERVER=0
		CUSTOM_DB=0

Table 3-3 Properties file values

Variable name	Valid values	Syntax

JDBC_DRIVER
JDBC_CLASSPATH
JDBC_LIBRARY_PATH
	Information about the JDBC driver to use. The defaults include:
	■ DB2 8.1
	JDBC_DRIVER=COM.ibm.db2.jdbc.app.DB2Driver
	JDBC_CLASSPATH=C:\\Program Files\\IBM\\SQLLIB\\java\\db2java.zip;C:\\Program Files\\IBM\\SQLLIB\\java\\db2jcc.jar
	JDBC_LIBRARY_PATH=C:\\Program Files\\IBM\\SQLLIB\\BIN
	■ DB2 7.2
	JDBC_DRIVER=COM.ibm.db2.jdbc.app.DB2Driver
	JDBC_CLASSPATH=C:\\Program Files\\SQLLIB\\java12\\db2java.zip
	JDBC_LIBRARY_PATH=C:\\Program Files\\SQLLIB\\BIN
	■ ORACLE 9i
	JDBC_DRIVER=oracle.jdbc.driver.OracleDriver
	JDBC_CLASSPATH=<ORA_HOME>/jdbc/lib/ojdbc14.jar
	JDBC_LIBRARY_PATH=
	SQL SERVER 2000 (Microsoft JDBC Driver)
		DB2 8.1 example:
		JDBC_DRIVER=COM.ibm.db2.jdbc.app.DB2Driver
		JDBC_CLASSPATH=C:\\Program Files\\IBM\\SQLLIB\\java\\db2java.zip;C:\\Program Files\\IBM\\SQLLIB\\java\\db2jcc.jar
		JDBC_LIBRARY_PATH=C:\\Program Files\\IBM\\SQLLIB\\BIN

Table 3-3 Properties file values

Variable name	Valid values	Syntax

JDBC_DRIVER
JDBC_CLASSPATH
JDBC_LIBRARY_PATH
	■ SQL SERVER 2000
	JDBC_DRIVER= com.microsoft.jdbc. sqlserver. SQLServerDriver
	JDBC_CLASSPATH=C:\\ Program Files\\ Microsoft SQL Server 2000 Driver for JDBC\\lib\\msbase.jar; C:\\Program Files\\ Microsoft SQL Server 2000 Driver for JDBC\\lib\\mssqlserver. jar;C:\\Program Files\\ Microsoft SQL Server 2000 Driver for JDBC\\ lib\\msutil.jar
	JDBC_LIBRARY_PATH=	

SQL_DIALECT	The SQL_DIALECT is used to customize the Reporting Database Link for the specific SQL syntax that is used by each database. If this variable is left blank, the Reporting Database Link will attempt to determine the correct dialect to use. For the three supported databases, the correct dialects are: DB2: net.sf.hibernate.dialect. DB2Dialect ORACLE: net.sf.hibernate. dialect.Oracle9Dialect SQL SERVER 2000: net.sf. hibernate.dialect. SQLServerDialect	DB2 example: SQL_DIALECT=net.sf.hibernate. dialect.DB2Dialect

Table 3-3 Properties file values

Variable name	Valid values	Syntax
DB_URL	Connection information for the database. URL formats are normally: ■ DB2 7.2 or 8.1 jdbc:db2:<db_name> ■ ORACLE 9i jdbc:oracle:thin:@ <host>:<port>: <db_name> ■ SQL SERVER 2000 (Microsoft JDBC Driver) jdbc:microsoft:sqlserver:// <host>[:<port>] [\\<instance_name>]; SelectMethod=Cursor; DatabaseName=<db_name> where '\\<instance_name>' may be omitted for the default instance and ':<port>' may be omitted for the default port	DB2 8.1 example: DB_URL=jdbc:db2:ESM

DB_USER
DB_PASSWORD
	Provide the user name and password of a database user account with insert, update, and delete rights to all of the ESM tables in the database. The user account must also have select rights to all ESM views in the database.	DB_USER=ESM_DB_LINK_ USER
		DB_PASSWORD= <password>

Table 3-3 Properties file values

Variable name	Valid values	Syntax

ESM_CONNECTION_
MANAGER_COUNT
ESM_HOST_1
ESM_PORT_1
ESM_USER_1
ESM_PASSWORD_1
	Specify multiple managers by having each manager use the next higher number than the previous manager in its variable names.
	You must provide the manager system name (resolvable by DNS) and the port number. The Reporting Database Link uses the same port number as the ESM console to connect to the manager. The default port number is 5600.
	You must also provide the user name and password of a manager user account with Manage user rights and read access rights to all domains and policies.
	If you wanted to specify a second manager, you must provide the connection information for that manager. You can continue to add managers by incrementing the number each time, and setting the ESM_CONNECTION_MANAGER_COUNT to the total number of managers.
		For example, connecting the Reporting Database Link to two managers:
		ESM_CONNECTION_
		MANAGER_COUNT=2
		ESM_HOST_1=computer1
		ESM_PORT_1=5600
		ESM_USER_1=user1
		ESM_PASSWORD_1=password1
		ESM_HOST_2=computer2
		ESM_PORT_2=5600
		ESM_USER_2=user2
		ESM_PASSWORD_2=password2

Warning: For the USER_INSTALL_DIR value, if you specify the \\ESM directory, uninstalling Symantec ESM will remove the Symantec ESM Reporting Database Link.

On HP-UX computers, the uninstaller does not uninstall the jre folder and its contents if you install the Symantec ESM Reporting Database Link to a location other than the default directory and then uninstall the Symantec ESM Reporting Database Link.

For the ESM_HOST_1 value, do not connect two Symantec ESM Reporting Database Links to the same Symantec ESM Manager and database. The database link log will report primary key failures.

If you specify connections to several Symantec ESM Managers during the installation of a Symantec ESM Reporting Database Link, a race condition may cause some ESM database errors during the initial transfer of data. You can correct the errors by stopping and restarting the Symantec ESM Reporting Database Link.

See “Checking the Symantec ESM Reporting Database Link log for errors” on page 101.

Performing a silent Symantec ESM Reporting Database Link installation

After you change the values in SilentInstallExample.properties file, you can run the silent Database Link installer.

To change the sample properties file

1. Open a text editor.
2. Access the Symantec Enterprise Security Manager (ESM) 6.1 Reporting CD.
3. Change to the database_link directory.
4. Copy the properties file in the database_link directory.
   - For only Windows installations, copy the properties file to a temporary folder.
   - For only UNIX installations, copy the properties file to a tmp directory.
5. Open the properties file.
6. Change the values in the properties file to correspond to the settings for your host computer and database server.
   See Table 3-3, “Properties file values,” on page 91.
7. Save the modified properties file.

To perform a silent Symantec ESM Reporting Database Link installation on Windows

1. At the system command prompt, change to the temporary folder containing the modified properties file.
2. Type **install -f** <path to the modified properties file>

To perform a silent Symantec ESM Reporting Database Link installation on UNIX

1. At the system command prompt, change to the tmp directory containing the modified properties file.
2. Type **install.sh**

To check the status of the installation

- See "To check the Database Link installation log" on page 100.

Post-installation tasks

Symantec ESM Reporting post-installation tasks include:

- Changing the Symantec ESM Reporting Database Link
- Stopping and restarting the Symantec ESM Reporting Database Link on UNIX
- Configuring Symantec Enterprise Reporting
- Configuring the Apache HTTP Web server
- Checking the installation logs for errors or warnings
- Restoring database performance
- Uninstalling the Symantec ESM Reporting Database Foundation
- Uninstalling the Symantec ESM Reporting Database Link
- Uninstalling Symantec Enterprise Reporting
- Uninstalling the Symantec ESM Reporting Reports Package

Changing the Symantec ESM Reporting Database Link

If you add or delete a Symantec ESM Manager or make another change to an installed Symantec ESM Reporting Database Link, you must use the installation CD to run the Database Link installer on the host computer and type the new configuration information.

On Windows computers, after the Database Link installer finishes, confirm that the Symantec ESM Reporting Database Link service has started.

To start the Symantec ESM Reporting Database Link service

1. On the host computer, access the services list.
2. If the Symantec ESM Reporting Database Link service does not have a status of Started, start the service.

Stopping and restarting the Symantec ESM Reporting Database Link on UNIX

On UNIX computers, you must use the ReportingDatabaseLink script to stop and restart the Symantec ESM Reporting Database Link process.

To stop the Symantec ESM Reporting Database Link process

1. Change to the /opt/Symantec/ESM_Reporting_Database_Link/bin directory.
2. At the system command prompt, type **ReportingDatabaseLink stop**

To restart the Symantec ESM Reporting Database Link process

1. Change to the /opt/Symantec/ESM_Reporting_Database_Link/bin directory.
2. At the system command prompt, type **ReportingDatabaseLink start**

Configuring Symantec Enterprise Reporting

After you install Symantec Enterprise Reporting, you must change some default configuration settings to run multiple reports concurrently on different Web browsers. Use an account that has execute permissions for the Administration secured function.

To configure Symantec Enterprise Reporting

1. Open the Symantec Enterprise Reporting user interface.
   See "Opening the user interface" on page 126.
2. On the toolbar, click **Tools**, and then click **Server Administration**.
3. Click **Configure**.
4. Click **<http://host_computer_name:9300>**.
5. In the Actions list, click **Set properties - BatchReportService**.
6. Click **Settings**.
7. In the Number of low affinity connections for the batch report service value text box, change the value from 4 to 2.
8. Click **OK**.
9. In the Actions list, click **Set properties - ReportService**.
10. Click **Settings**.
11. In the Number of low affinity connections for the interactive report service value text box, change the value from 4 to 2.

12 In the Queue time limit of report service in seconds value text box, change the value from 30 to 300.

13 In the Maximum number of interactive report service processes, change the value from 2 to the result of multiplying the number of processors on the Symantec Enterprise Reporting host computer by 2.

For example, if the host computer has two processors, change the value from 2 to 4.

14 Click **OK**.

Configuring the Apache HTTP Web server

After you install the Apache HTTP Web server, you must change some default configuration settings to run multiple reports concurrently on different Web browsers.

To configure the Apache HTTP Web server

1 On the computer on which you are installing Symantec Enterprise Reporting, use a text editor to open the C:\Program Files\Apache Group\Apache2\conf\httpd.conf file.

2 Under MaxKeepAliveRequests, type **1000**.

3 Under the KeepAliveTimeout, type **300**.

4 Stop and then restart the Apache2 service.

Checking the installation logs for errors or warnings

Each installer creates a separate installation log. Some installers create more than one installation log.

Check the installation logs for errors or warnings

The installation logs contain lists of messages from the installers. Some logs contain summary tables listing the number of successes, warnings, non-fatal errors, or fatal errors.

To check the Database Foundation installation log

1 On the computer on which you installed the Symantec ESM Reporting Database Foundation, open a text editor.

2 Do one of the following tasks:

- On Windows computers, browse to the C:\Documents and Settings\Administrator\Local Settings\temp folder.
- On UNIX computers, change to the /tmp directory.

3 Open the Symantec_ESM_Reporting_Database_Foundation_InstallLog.log file and check for any warnings or errors.

4 If you used the Database Foundation installer to create the ESM database, open the Symantec_ESM_Reporting_DB_Creation.log file and check for any warnings or errors.

5 If you used the Database Foundation installer to create the SER database, open the Symantec_Enterprise_Reporting_DB_Creation.log file and check for any warnings or errors.

To check the Database Link installation log

1 On the computer on which you installed the Symantec ESM Reporting Database Link, open a text editor.

2 Do one of the following tasks:

- On Windows computers, browse to the C:\Program Files\Symantec\ESM Reporting Database Link folder.
- On UNIX computers, change to the /opt/Symantec/ESM/ Reporting_Database_Link directory.

3 Open the Symantec_ESM_Reporting_Database_Link_InstallLog.log file and check for any warnings or errors.

To check the Symantec Enterprise Reporting installation log

1 On the computer on which you installed Symantec Enterprise Reporting, open a text editor.

2 Do one of the following tasks:

- On Windows computers, browse to the C:\Program Files\Symantec\Enterprise_Reporting\instlog folder.
- On UNIX computers, change to the /opt/ Symantec Enterprise_Reporting/instlog directory.

3 Open the tl-CRN<build ID number>.txt file and check for any warnings or errors.

4 Open the tl-CRN<build ID number>-summary error.txt file and check for any warnings or errors.

To check the Reports Package installation log

1. On the computer on which you installed the Symantec ESM Reporting Reports Package, open a text editor.
2. Do one of the following tasks:
   - On Windows computers, browse to the C:\Documents and Settings\Administrator\Local Settings\temp folder.
   - On UNIX computers, change to the /tmp directory.
3. Open the Symantec_ESM_Reports_Package_InstallLog.log file and check for any warnings or errors.

Checking the Symantec ESM Reporting Database Link log for errors

If you specify connections to several Symantec ESM Managers during the installation of a Symantec ESM Reporting Database Link, a race condition may cause some ESM database errors during the initial transfer of data. You can correct the errors by stopping and restarting the Symantec ESM Reporting Database Link.

To check the Database Link log for errors

1. On the computer on which you installed the Symantec ESM Reporting Database Link, open a text editor.
2. Do one of the following tasks:
   - On Windows computers, browse to the C:\Program Files\Symantec\ESM Reporting Database Link\logs folder.
   - On UNIX computers, change to the /opt/Symantec/ESM Reporting Database Link/logs directory.
3. Check the file for messages containing the text, “duplicate rows for columns.”
4. If you find these error messages in the log, you must do one of the following tasks to stop and restart the Symantec ESM Reporting Database Link:
   - On Windows computers, use Windows Services to stop and restart the Symantec ESM Reporting Database Link.
   - On UNIX computers, see “Stopping and restarting the Symantec ESM Reporting Database Link on UNIX” on page 98. ‘

Restoring database performance

Loading large volumes of data into a database can cause database performance problems.

Restore database performance on Windows using IBM DB2

Symantec provides two scripts that you can use to restore database performance. The REORG.cmd script reorders the data for more efficient access. The RUNSTATS.cmd script gathers statistics for the schema. You must run the REORG.cmd script before running the RUNSTATS.cmd script.

You should run the RUNSTATS script at five to ten minute intervals and run the REORG script at least hourly while the Symantec ESM Reporting Database Links load the ESM database. After this initial start up period, you can run the scripts on a weekly basis or whenever database performance slows down.

You must copy the RUNSTATS and REORG scripts to a physical disk drive on your computer.

To copy the REORG.cmd script and RUNSTATS.cmd script

1. At the IBM DB2 command prompt, access the Symantec ESM Reporting installation CD for Windows.
2. Do one of the following:
   - For IBM DB2 v8.1, change to the SQL\DB2\createESMdb folder.
   - For IBM DB2 v7.2, change to the SQL\DB2\createESMdb\db2_72 folder.
3. Copy the REORG.cmd and RUNSTATS.cmd scripts to a path on the database server computer.

To run the REORG.cmd script

◆ At the IBM DB2 command prompt, type **reorg**.

To run the RUNSTATS.cmd script

◆ At the IBM DB2 command prompt, type **runstats**.

Restore database performance on Solaris using Oracle

You can use a SQL Plus command to restore database performance. The command gathers statistics for the schema. You should run the command at hourly intervals while the Symantec ESM Reporting Database Links load the ESM database. After this initial start up period, you can run the command on a nightly basis or whenever database performance slows down.

To run the SQL Plus command

- At the SQL Plus command prompt, type **execute dbms_stats.gather_schema_stats <'ESMDB10', dbms_stats.auto_sample_size>, cascade => true);**

Uninstalling the Symantec ESM Reporting Database Foundation

This is a database maintenance function. You must drop the ESM and SER databases to uninstall the Symantec ESM Reporting Database Foundation.

Uninstalling the Symantec ESM Reporting Database Link

The Symantec ESM Reporting Database Link uninstaller removes only the Symantec ESM Reporting Database Link from the host computer. If you silently installed the Symantec ESM Reporting Database Link, the uninstaller will silently remove the Symantec ESM Reporting Database Link.

Note: On an HP-UX computer using an Oracle database, the Symantec ESM Reporting Database Link uninstaller cannot remove the default Symantec ESM Reporting Database Link installation directory or the JRE directory with its bin and lib directories. You must manually remove these directories after the uninstaller finishes.

Uninstall the Symantec ESM Reporting Database Link

Uninstalling the Symantec ESM Reporting Database Link consists of the following tasks:

- Starting the Symantec ESM Reporting Database Link uninstaller on Windows or UNIX computers.
- Uninstalling the Symantec ESM Reporting Database Link.

To start the Symantec ESM Reporting Database Link uninstaller on a Windows computer

1. Click **Start** > **Settings** > **Control Panel.**
2. Double-click **Add/Remove Programs.**
3. Click **Symantec ESM Reporting Database Link**
4. Click **Change/Remove**.

To start the Symantec ESM Reporting Database Link uninstaller on a UNIX computer

1. At the system command line, change to the /opt/Symantec/ESM/Reporting_Database_Link/
Uninstall Symantec ESM Reporting Database Link directory.
2. Type **./Uninstall_Symantec_ESM_Reporting_Database_Link.**

To uninstall the Symantec ESM Reporting Database Link

1. On the Introduction panel, click **Uninstall**.
2. On the Uninstall Complete panel, do one of the following tasks:
   - For UNIX computers, click **Done**.
   - For Windows computers, click **Yes, restart my system**, and then click **Done**.

Uninstalling Symantec Enterprise Reporting

Symantec Enterprise Reporting uninstaller removes Symantec Enterprise Reporting and the Symantec ESM Reporting Report Package from the host computer.

Uninstall Symantec Enterprise Reporting

Uninstalling Symantec Enterprise Reporting consists of the following tasks:

- Starting the Symantec Enterprise Reporting uninstaller on Windows or UNIX computers.
- Uninstalling Symantec Enterprise Reporting.

To start the Symantec Enterprise Reporting uninstaller on a Windows computer

1. Click **Start** > **Settings** > **Control Panel.**
2. Double-click **Add/Remove Programs.**
3. Click **Symantec Enterprise Reporting.**
4. Click **Change/Remove**.

To start the Symantec Enterprise Reporting uninstaller on a UNIX computer

1. At the system command line, change to the /opt/Symantec/Enterprise_Reporting/uninstall directory.
2. Type **./Uninstall_Symantec_Enterprise_Reporting**

To uninstall Symantec Enterprise Reporting

1. On the **Introduction panel**, click **Next**.
2. On the Uninstall Wizard panel, select the language that you want to use, and then click **Next**.
3. In the Uninstall Wizard dialog box, click **Yes**.
4. On the Uninstall Complete panel, click **Done**.

Uninstalling the Symantec ESM Reporting Reports Package

Uninstalling Symantec Enterprise Reporting also uninstalls the Symantec ESM Reporting Reports Package.

Chapter 4

Securing Symantec ESM Reporting

This chapter includes the following topics:

About security considerations

The reports that Symantec ESM Reporting generates contain sensitive information regarding computers in your network. This information could be used by an attacker to compromise your network.

The Symantec ESM Reporting database holds the data for your network, including computer names, account names for your Symantec ESM user accounts and your Symantec Enterprise Reporting user accounts, specific security violations for computers in your network, and other data.

You can improve the security of your sensitive data by considering the following points:

- Authentication to Symantec Enterprise Reporting
- JDBC communications between components of Symantec ESM Reporting
- Communications between computers where you installed components of Symantec ESM reporting (if you did a distributed installation)
- Communications between the Web server and Web browsers
- Email security
- Backups and backup security

- Log files
- Network security
- Web browser security
- Enabling Symantec Enterprise Reporting auditing

Note: Communications between Symantec ESM and the Symantec Enterprise Reporting Database Link are inherently secure.

Securing JDBC driver communications

The Symantec ESM Reporting Database Link and the Java content store components of Symantec Enterprise Reporting use JDBC communications to communicate with the Symantec ESM database. The net and app drivers in the run-time clients for IBM DB2, MS-SQL, and Oracle databases can send user names, passwords, and other sensitive information in clear text form across your network via these JDBC connections.

See "Planning for the Symantec ESM Reporting Database Link" on page 27 "Planning for Symantec Enterprise Reporting" on page 27.

To secure the JDBC Driver connections, use encrypted third-party JDBC drivers.

Securing communications between Symantec Enterprise Reporting components

Symantec Enterprise Reporting uses several components that can be installed on separate computers. If you do a distributed installation of these components, the communications between them may not be secure. The components of Symantec Enterprise Reporting are as follows:

- Report Server - The report engine that renders reports.
- Gateway - The component that installs on the Web server computer.
- Content Manager - The component that communicates with the Symantec Enterprise Reporting database.
- Web Server - The component that hosts Symantec Enterprise Reporting.

See "About the Symantec Enterprise Reporting installer" on page 25 for more information about these components.

To secure these communications, place computers behind a firewall.

If your computers are in a physically secure location, you can isolate these connections by setting up a dual-homed host through a physically secure segment of the network. The connection can pass sensitive information in clear text but unauthorized personnel cannot access it.

Securing saved reports

When you save reports to your computer, the file permissions may allow others to access and view the report. You may need to take additional steps to ensure that your reports are secure.

To secure saved reports

- ◆ Do one or more of the following:
  - ■ Using your operating system, modify the file permissions to allow access to the report to only authorized individuals.
  - ■ Encrypt the report files.

About printing reports

Connections to network printers may not be secure. Use Parallel port or USB printers where possible.

Securing email

Symantec Enterprise Reporting incorporates an option to email reports directly from the Symantec Enterprise Reporting interface. This function sends email insecurely, and can be intercepted and read by an unintended recipient.

You may be able to use this function if you are sending email to a recipient within your network and you know that the email will not be sent to a server outside of your protected network. However, if the email travels outside of your network, the communications could be intercepted, or the email could be retrieved from a store-and-forward email server (where email can be stored even after it is sent to the intended recipient).

To email a report securely

1. Save the report to your computer.
   See “Exporting report information” on page 134.
   This procedure also involves some safety considerations.
   See “Securing saved reports” on page 109.

2 Do one of the following:

- Add the report as an attachment, then use your email tool to encrypt the entire email before you send it to the recipient.
- Encrypt the file then add the file to your email as an attachment.

About backups

The information in the Symantec Enterprise Reporting database can be critical to an organization. Consider backing up this database. However, if you backup the database, keep in mind the following points:

- Communications between your database and your network backup solution may not be secure. Use Symantec Client VPN to secure this connection.
- Keep backup storage media secure by protecting it from physical compromise.

About HTTP Web server security

The default settings of Symantec Enterprise Reporting use http as the Web protocol. To secure your Web server, you should configure it to use https or another secure protocol.

Many commercial Web servers are preconfigured to use https or another secure protocol. Consult your vendor documentation for information on configuring and using these protocols.

If your Web server does not come configured to use SSL, instructions for obtaining SSL and configuring to work with your Web server are readily available on the Internet.

About user account permissions

You can update Symantec ESM Reporting user permissions at any time. These user permissions can be entered manually using SQL commands, or can be synchronized to implement Symantec ESM user account permissions user rights match in Symantec ESM Reporting. Additional SQL commands are necessary to implement this synchronization feature.

For users that do not have ESM accounts, you can add user permissions for LDAP or NTLM accounts, and assign appropriate permissions by mapping the LDAP or NTLM to a Symantec ESM account.

See “Assigning user account permissions using the Symantec ESM Reporting Database Link” on page 115.

Table 4-1 displays and explains the four database tables that hold permissions for Symantec ESM Reporting.

In addition to these permission settings, you can use Symantec Enterprise Reporting to control user rights when generating, adding, editing, or deleting reports. See the *Administration and Security Guide* for information on access permissions. You can find this guide on the CD in the Docs\Symantec Enterprise Reporting directory.

Table 4-1 Symantec ESM Reporting permissions tables

Table name	Description
RPT_ALL_MGR_PERM	Has rights to view all data, and overrides permissions in all other tables. This table is never updated with the Symantec ESM Reporting Database Link. See "Manually assigning user account permissions using SQL commands" on page 116.
RPT_MANAGER_PERM	Provides view of individual managers, and the policies and domains that are associated with the managers.
RPT_POLICY_PERM	Contains data for specific policies.
RPT_DOMAIN_PERM	Contains data for specific domains.
ACCOUNT_MAPPING	Holds the accounts that are synchronized via the Symantec Enterprise Reporting Database Link

Table 4-2 RPT_ALL_MGR_PERM database table fields

Field name	Description
USER_NAME	Holds the user name. User names appearing in this field have access to the specified data on all managers.
VIEW_ALL_DOMAINS	Holds a boolean value. A 1 in this field indicates that the associated user can view data for all domains on all managers. A 0 in this field indicates that the user cannot view all domains, however, you can put data into the other tables to give users rights to specific domains.
VIEW_ALL_POLICIES	Holds a boolean value. A 1 in this field indicates that the associated user can view data for all policies on all managers. A 0 in this field indicates that the user cannot view all policies, however, you can put data into the other tables to give users rights to specific policies.

Table 4-2 RPT_ALL_MGR_PERM database table fields

Field name	Description
VIEW _ESM_ACCOUNTS	Holds a boolean value. A 1 in this field indicates that the associated user can view data for all Symantec ESM user accounts on all managers. A 0 in this field indicates that the user cannot view all Symantec ESM user accounts, however, you can put data into the other tables to give users rights to specific Symantec ESM user accounts.

Table 4-3 RPT_MANAGER_PERM database table fields

Field name	Description
USER_NAME	Holds the user name.
MANAGER_ID	Holds the manager name for which the user has permissions. This data comes from the MANAGER table.
IS_ESM ACCOUNT	Holds a boolean value that indicates whether this user information is updated by the Symantec ESM Reporting Data Link. Do not modify this field if it contains a boolean one.
VIEW_ALL_DOMAINS	Holds a boolean value that indicates whether this user has permissions to view all domains for the manager.
VIEW_ALL_POLICIES	Holds a boolean value that indicates whether this user has permissions to view all policies for the manager.
VIEW_ESM_ACCOUNTS	Holds a boolean value that indicates whether this user has permissions to view all Symantec ESM user accounts for the manager.

Table 4-4 RPT_DOMAIN_PERM database table fields

Field name	Description
USER_NAME	Holds the user name.
IS_ESM ACCOUNT	Holds a boolean value that indicates whether this user information is updated by the Symantec ESM Reporting Data Link. Do not modify this field if it contains a boolean one.

Table 4-4 RPT_DOMAIN_PERM database table fields

Field name	Description
DOMAIN_ID	Holds the domain ID for which the user has permissions. This value comes from the ESM_DOMAIN table.

Table 4-5 RPT_POLICY_PERM database table fields

Field name	Description
USER_NAME	Holds the user name.
IS_ESM ACCOUNT	Holds a boolean value that indicates whether this user information is updated by the Symantec ESM Reporting Data Link. Do not modify this field if it contains a boolean one.
POLICY_ID	Holds the policy name for which the user has permissions. This value comes from the POLICY table.

Table 4-6 ACCOUNT_MAPPING database table fields

Field name	Description
USER_NAME	Holds the user name of the NTLM, LDAP, or other authentication account that is used to log into Symantec Enterprise Reporting.
ACCOUNT_ID	Holds the Symantec ESM account ID taken from the ACCOUNT table. See "Assigning user account permissions using the Symantec ESM Reporting Database Link" on page 115.

About anonymous access and administrator accounts

If you enabled anonymous access during installation, you should disable it to prevent unauthorized users from gaining network access.

However, you need to create an administrator account with all privileges to pre vent loss of administration rights to your application. If you disable anonymous access, you cannot access Symantec Enterprise Reporting until you create an administrator account.

See "Manually assigning user account permissions using SQL commands" on page 116.

To disable anonymous access

1. Open the ESM Reporting Configuration tool. See the *Configuration User Guide* for more information on using this application.
2. In the left pane, click to **Security** > **Authentication** > **Cognos**.
3. In the Allow Anonymous Access field, click **False**.

In addition to disabling anonymous access to your Web server, in order to enforce permissions for legitimate users, you need to delete the anonymous access account entry in the RPT_ALL_MGR_PERM table of the database.

If you disabled anonymous access during installation, you must delete the anonymous account rows from the database to enforce user permissions. If you do not remove this from the database, anonymous user accounts will have access to all data in the database.

To delete the anonymous access account information from the database

- Use the following SQL command:

```
DELETE FROM ESMDB10.RPT_ALL_MGR_PERM WHERE USER_NAME =
'Anonymous'
```

Assigning user account permissions using the Symantec ESM Reporting Database Link

The synchronization feature of Symantec ESM Reporting imports permissions from Symantec ESM. To use this feature, you must map the account user names in the USER_NAME field of the ACCOUNT table of the Symantec ESM Reporting database to the USER_NAME field in the ACCOUNT_MAPPING table.

The USER_NAME field in the ACCOUNT_MAPPING table is the same as the authentication user name of the user account for Symantec Enterprise Reporting. The USER_NAME field of the ACCOUNT table is the user name for the Symantec ESM account.

To map user names

1. Create an account for Symantec Enterprise Reporting using LDAP or another authentication server. See vendor documentation for instructions on creating user accounts with authentication servers.
2. Use the following SQL command as a template to map the Symantec Enterprise Reporting name to the authentication server user name.

   This SQL command would take the ESM user name of jon_smith and map it to an authentication server user name of JON-SMITH.

   ```
   INSERT INTO ESMDB10.ACCOUNT_MAPPING (USER_NAME, ACCOUNT_ID)
   VALUES ('JON-SMITH', (SELECT ACCOUNT.ACCOUNT_ID FROM
   ESMDB10.ACCOUNT WHERE ACCOUNT.USER_NAME = 'jon_smith'))
   ```

More than one authentication server user name may be mapped to a single Symantec ESM user name.

To map a Symantec ESM account regardless of manager to the same Symantec Enterprise Reporting user account

◆ Use the following SQL command as a template to map the accounts:

```
INSERT INTO ESMDB10.ACCOUNT_MAPPING (USER_NAME, ACCOUNT_ID)
SELECT '<Symantec Enterprise Reporting user name>', ACCOUNT_ID
FROM ESMDB10.ACCOUNT A WHERE A.USER_NAME='<Symantec ESM account
user name>'
```

To map a specific Symantec ESM account on a specific manager to the same Symantec Enterprise Reporting user account

- Use the following SQL command as a template to map the accounts:

```
INSERT INTO  ESMDB10.ACCOUNT_MAPPING  ( USER_NAME,  ACCOUNT_ID
) SELECT '<Symantec Enterprise Reporting user name>',
ACCOUNT_ID  FROM ESMDB10.ACCOUNT A, ESMDB10.MANAGER M WHERE
A.MANAGER_ID = M.MANAGER_ID AND A.USER_NAME='<Symantec ESM
account user name>' AND M.MANAGER_NAME='<Symantec ESM Manager
name>'
```

Manually assigning user account permissions using SQL commands

To manually update the permissions, you need to use SQL commands. Use an SQL application to access the Symantec ESM Reporting Database and update your permissions.

The following examples show how to update permissions in several situations, including:

- Give administrator privileges
- Give rights to specific policies and domains on all managers
- Give rights to all policies and domains on specific managers
- Give rights to specific policies and domains on specific managers

To create an account with administrator privileges

- The following set of SQL commands gives administrator privileges to an account, including rights to all information in the Symantec ESM Reporting Database:

```
SELECT * FROM ESMDB10.RPT_ALL_MGR_PERM
```

```
INSERT INTO ESMDB10.RPT_ALL_MGR_PERM VALUES ('Administrator', 1,
1, 1)
```

To create an account with rights to specific policies and domains on all managers

- The following set of SQL commands gives a user named eric rights to view specific domains (Windows 2000 Agents, and the ALL Agents domain), and specific policies (Phase 1 and Phase 2) on all managers:

  ```
  SELECT * FROM RPT_ALL_MGR_PERM
  INSERT INTO ESMDB10.RPT_ALL_MGR_PERM VALUES ('eric', 0, 0, 0)
  INSERT INTO ESMDB10.RPT_DOMAIN_PERM (USER_NAME, IS_ESM_ACCOUNT,
  DOMAIN_ID) SELECT 'eric', 0, DOMAIN_ID FROM ESMDB10.ESM_DOMAIN
  WHERE DOMAIN_NAME IN ('Windows 2000 Agents', 'All Agents')
  INSERT INTO ESMDB10.RPT_POLICY_PERM (USER_NAME, IS_ESM_ACCOUNT,
  POLICY_ID) SELECT 'eric', 0, POLICY_ID FROM ESMDB10.POLICY WHERE
  POLICY_NAME IN ('Phase 1', 'Phase 2')
  ```

To create an account with rights to all policies and domains on specific managers

- The following set of SQL commands gives a user named jeremy rights to view all domains and policies on a specific manager (Manager_0):

  ```
  INSERT INTO ESMDB10.RPT_MANAGER_PERM (USER_NAME, MANAGER_ID,
  IS_ESM_ACCOUNT, VIEW_ALL_DOMAINS, VIEW_ALL_POLICIES,
  VIEW_ESM_ACCOUNTS)
  SELECT 'jeremy', MANAGER_ID, 0, 1, 1, 1 FROM ESMDB10.MANAGER
  WHERE MANAGER_NAME IN ('Manager_0')
  ```

To create an account with rights to specific policies and domains on specific managers

- Use the following sets of commands as templates to do specific actions:
  - The following set of SQL commands gives a user named alan access to Manager_1 data, but not blanket access to all domains or policies. It gives him access ESM user account information from Manager_1:

    ```
    INSERT INTO ESMDB10.RPT_MANAGER_PERM (USER_NAME, MANAGER_ID,
    IS_ESM_ACCOUNT, VIEW_ALL_DOMAINS, VIEW_ALL_POLICIES,
    VIEW_ESM_ACCOUNTS)
    SELECT 'alan', MANAGER_ID, 0, 0, 0, 1 FROM ESMDB10.MANAGER
    WHERE MANAGER_NAME IN ('Manager_1')
    ```

- The following set of SQL commands gives a user named alan access to Manager_2 data, but not blanket access to all domains or policies. It denies him access ESM user account information from Manager_2:

  ```
  INSERT INTO ESMDB10.RPT_MANAGER_PERM (USER_NAME, MANAGER_ID,
  IS_ESM_ACCOUNT, VIEW_ALL_DOMAINS, VIEW_ALL_POLICIES,
  VIEW_ESM_ACCOUNTS)
  SELECT 'alan', MANAGER_ID, 0, 0, 0, 0 FROM ESMDB10.MANAGER
  ```
- The following set of SQL commands gives a user named alan access to specific domains (All Agents, Domain_0, and Domain_1) on specific managers (Manager_1 and Manager_2):

  ```
  INSERT INTO ESMDB10.RPT_DOMAIN_PERM (USER_NAME,
  IS_ESM_ACCOUNT, DOMAIN_ID)
  SELECT 'alan', 0, DOMAIN_ID FROM ESMDB10.ESM_DOMAIN D,
  ESMDB10.MANAGER M WHERE D.MANAGER_ID = M.MANAGER_ID AND
  D.DOMAIN_NAME IN ('All Agents', 'Domain_0', 'Domain_1') AND
  M.MANAGER_NAME IN ('Manager_1', 'Manager_2')
  ```
- The following set of SQL commands gives a user named alan access to specific policies (Policy_0 and Policy_1) on specific managers (Manager_1 and Manager_2):

  ```
  INSERT INTO ESMDB10.RPT_POLICY_PERM (USER_NAME,
  IS_ESM_ACCOUNT, POLICY_ID)
  SELECT 'alan', 0, POLICY_ID FROM ESMDB10.POLICY P,
  ESMDB10.MANAGER M WHERE P.MANAGER_ID = M.MANAGER_ID AND
  P.POLICY_NAME IN ('Policy_0', 'Policy_1') AND M.MANAGER_NAME
  IN ('Manager_1', 'Manager_2')
  ```

Removing user account permissions

Personnel changes may require you to delete user accounts. The method for deleting user accounts varies depending on whether the Symantec Reporting Database Link is automatically updating the Symantec Enterprise Reporting user accounts.

If the user account is being updated in this way, you can remove the user accounts automatically when you delete the corresponding accounts in the Symantec ESM console. If you created the account manually using SQL commands, then the following set of SQL commands is required to delete user accounts.

To delete user accounts manually

- Use the following sets of commands as templates to do specific actions
  - The following command removes access to specific policies (Phase 1 and Phase 2 on a specific manager (Manager_1) from a specific user (User1):

    ```
    DELETE FROM ESMDB10.RPT_POLICY_PERM WHERE USER_NAME =
    'User1' AND POLICY_ID IN (SELECT POLICY_ID FROM
    ESMDB10.POLICY P, ESMDB10.MANAGER M WHERE P.MANAGER_ID =
    M.MANAGER_ID AND P.POLICY_NAME IN ('Phase 1', 'Phase 2') AND
    M.MANAGER_NAME = 'Manager_1')
    ```

  - The following set of commands removes all access to ESM data from specific users (User1 and User2):

    ```
    DELETE FROM ESMDB10.RPT_MANAGER_PERM WHERE IS_ESM_ACCOUNT =
    0 AND USER_NAME IN ('User1', 'User2')
    DELETE FROM ESMDB10.RPT_DOMAIN_PERM WHERE IS_ESM_ACCOUNT = 0
    AND USER_NAME IN ('User1', 'User2')
    DELETE FROM ESMDB10.RPT_POLICY_PERM WHERE IS_ESM_ACCOUNT = 0
    AND USER_NAME IN ('User1', 'User2')
    DELETE FROM ESMDB10.RPT_ALL_MGR_PERM WHERE USER_NAME IN
    ('User1', 'User2')
    ```

  - The following command revokes a specific permission (view all policies) on a specific manger (Manager1) from a user named Joe:

    ```
    UPDATE ESMDB10.RPT_MANAGER_PERM SET VIEW_ALL_POLICIES = 0
    WHERE USER_NAME='Joe' AND MANAGER_ID IN (SELECT MANAGER_ID
    FROM ESMDB10.MANAGER WHERE MANAGER_NAME IN ('Manager1'))
    ```

Viewing current user permissions

You can use SQL commands to view the current permissions for Symantec Enterprise Reporting users.

To view user permissions

- Use the following sets of commands to view user permissions:
  - Use the following command to view all domain-specific permissions:

    ```
    SELECT P.USER_NAME, D.DOMAIN_NAME, M.MANAGER_NAME FROM
    ESMDB10.RPT_DOMAIN_PERM P, ESMDB10.ESM_DOMAIN D,
    ESMDB10.MANAGER M WHERE P.DOMAIN_ID = D.DOMAIN_ID AND
    M.MANAGER_ID = D.MANAGER_ID
    ```

- Use the following command to view all policy-specific permissions:

  ```
  SELECT R.USER_NAME, P.POLICY_NAME, M.MANAGER_NAME FROM
  ESMDB10.RPT_POLICY_PERM R, ESMDB10.POLICY P, ESMDB10.MANAGER
  M WHERE R.POLICY_ID = P.POLICY_ID AND M.MANAGER_ID =
  P.MANAGER_ID
  ```

- Use the following command to view all manager-specific permissions:

  ```
  select user_name, manager_name, is_esm_account,
  view_all_domains, VIEW_ALL_POLICIES, VIEW_ESM_ACCOUNTS FROM
  ESMDB10.RPT_MANAGER_PERM R, ESMDB10.MANAGER M WHERE
  R.MANAGER_ID = M.MANAGER_ID
  ```

- Use the following command to view all cross-manager permissions:

  ```
  select * from esmdb10.rpt_all_mgr_perm
  ```

- Use the following command to view all cross-manager permissions for a specific user (User1):

  ```
  select * from esmdb10.rpt_all_mgr_perm where user_name =
  'User1'
  ```

- Use the following command to view all domain permissions for a specific user (User1):

  ```
  select p.user_name, d.domain_name, m.manager_name from
  esmdb10.rpt_domain_perm p, esmdb10.esm_domain d,
  esmdb10.manager m where p.domain_id = d.domain_id and
  m.manager_id = d.manager_id and p.user_name = 'User1'
  ```

About auditing in Symantec ESM Reporting

Symantec Enterprise Reporting uses several logs to let you keep track of events. It also has a set of audit reports that display audit events. You can look at the logs to see the events for components of Symantec Enterprise Reporting, You can also use the logs with the reporting interface to create custom reports.

Locating logs

The following tables show you the default installation location for auditing logs and describe the data in the logs. If you install the application in a folder other than the default folder, the location of the logs will vary.

Table 4-7 Reporting interface logs

Log name	Location	Description
CRNServer.log	Windows: \Program Files \Symantec\Enterprise_Reporting \logs UNIX: /opt/Symantec/ Enterprise_Reporting/logs	Records events that occur in the Symantec Enterprise Reporting interface.
localhost_access_ log<date>.txt	Windows: \Program Files \Symantec\Enterprise_Reporting \logs UNIX: /opt/Symantec/ Enterprise_Reporting/logs	Records user activity in Symantec Enterprise Reporting.
tomcat.log	Windows: \Program Files \Symantec\Enterprise_Reporting \logs UNIX: /opt/Symantec/ Enterprise_Reporting/logs	The Tomcat servlet log.

Table 4-8 Symantec Enterprise Reporting Database Link logs

Log name	Location	Description
Database_link.log	Windows: \Program Files\ Symantec\ Enterprise_Reporting\ Database Link\logs UNIX: /opt/Symantec/ Enterprise_Reporting/ Database Link/logs	Records events for the Symantec Enterprise Reporting Database Link.
service.log	Windows: \Program Files\ Symantec\ Enterprise_Reporting\ Database Link\logs UNIX: /opt/Symantec/ Enterprise_Reporting/ Database Link/logs	The service control log for the Symantec Enterprise Reporting Database Link.

Using audit reports

To use audit reports, you must set the audit log level, install the audit reports package, and create the tables for the audit reports.

About setting the audit log

The Symantec Enterprise Reporting log can be adjusted to record events in five levels of detail to meet your security needs. See the *Administration and Security Guide* for information about the five levels of auditing. You can find this guide on the CD in the Docs\Symantec Enterprise Reporting directory.

To set the logging level

1. On the portal toolbar, click **Server Administration**.
2. Click the Configure tab.
3. In the Actions column, click the set properties button for the dispatcher or configuration folder you want.
4. Click the Settings tab to view all the configuration settings.

5 In the Value column, type a new value for the following settings, each of which represents a logging category:

- Audit logging level
- Audit run-time usage logging level
- Audit administration logging level
- Audit other logging level

Note: If you want to reset a configuration setting to its default value, check its check box and click **Reset to default value**.

6 Click **OK**.

About audit reports

Symantec Enterprise Reporting audit reports are included in the Symantec ESM Reporting sample report package, in a file called Cognos_Audit.zip. See the *Installation and Configuration Guide* for information on installing and using these reports. You can find this guide on the CD in the Docs\Symantec Enterprise Reporting directory.

About audit table creation

To create these reports you must first create the audit tables.

To create the audit tables

1 Open Enterprise Reporting Configuration.

2 Click **Local Configuration** > **Environment** > **Logging**.

3 Right click **Logging**, and then click **New Resource** > **Destination**.

4 Type a name for the New Database Resource.

5 Change the Type to Database and then click **OK**.

6 Right click the newly created **Auditing DB**, and then click **New Resource** > **Database**.

7 Type a name for the new database.

8 Select the database type.

9 Click **OK**.

10 In the right panel, type the appropriate database name, user ID, password, server, and port number.

11 From the File menu, click **Save**.

12 Restart the Cognos ReportNet service to create the new tables in the Content Manager database.
The tables are:

- COGIPF_ACTION
- COGIPF_USERLOGON
- COGIPF_NATIVEQUERY
- COGIPF_PARAMETER
- COGIPF_RUNJOB
- COGIPF_RUNJOBSTEP
- COGIPF_RUNREPORT
- COGIPF_VIEWREPORT
- COGIPF_SYSPROPS

Chapter 5

Running Symantec ESM Reporting

This chapter includes the following topics:

About the user interface

Symantec ESM Reporting uses a Web-based user interface for creating reports. This lets you use the application from any computer that can connect to your Web server.

The first time that you log into Symantec ESM Reporting, your interface opens to the Welcome tab, a Public Folders tab, and a My Folders tab.

The Welcome tab has several tools that let you customize your workspace to meet your needs and preferences, to create reports, to customize your workspace, and to access other tools to administer your Symantec ESM Reporting application.

The Public Folders tab contains all of the Symantec ESM reports that you have permissions to view or run.

You can use the My Folders tab to save your customized reports.

Symantec ESM Reporting has a help link on each page in the interface. When you click on the help link, Symantec ESM Reporting opens the help page that relates to the task that you are performing. The help pages provide systematic instructions on using Symantec ESM Reporting.

Opening the user interface

To use Symantec ESM Reporting, you must access the Web server, then log on to the application.

To open the user interface

1 In the address box of a supported Web browser, type **http://<Symantec ESM Reporting Web server name>/ Enterprise_Reporting**

Note: You may need to use https:// if http has been disabled.

2 If anonymous logon is disabled, in the Symantec Enterprise Reporting Logon page, do the following:

- In the User Name field, type the name of a user account that has the required permissions to use the desired reports.
- In the Password field, type the user account password.

Note: The user name and password are the LDAP or NTLM authentication sever account user name and password.
See "Installing Symantec ESM Reporting" on page 41.

Customizing the user interface

You can add tabs, folders, reports, and other information to your workspace when you use the customization tool to customize your interface. This lets you combine reports with other information sources such as bookmarks and Web pages to personalize your workspace.

To customize the user interface

1. On the Welcome page, click **New Page**.
2. Use the tools in the upper-right corner to add content and edit the layout of the content.
   Place your mouse over each icon for each tool to see pop-up text that describes the tool.
3. Click the Help link in each tool to see the function of each tool, or refer to the *Administration and Security Guide* for detailed information. You can find this guide on the CD in the Docs\Symantec Enterprise Reporting directory.

About the administration tools

The Welcome page has links to several tools that let you administer Symantec ESM Reporting (some of the listed tools may be available only to users with the proper permissions). Table 5-1 describes the administration tools.

Table 5-1 Symantec ESM Reporting administration tools

Tool name	Tool function
Preferences	Lets you organize the format and layout of your workspace. You set default display settings and pages using this tool.
Directory	Lists and lets you administer Users, Groups, and Roles in Symantec ESM Reporting. You can also manage data sources, distribution lists, and printers from this tool.
Capabilities	Lets you administer the features and permissions for the reporting tools such as Report Studio.

Table 5-1 Symantec ESM Reporting administration tools

Tool name	Tool function
Schedule Management	Lets you schedule report runs and view the history of reports that have been previously scheduled. See "Scheduling reports" on page 133.
Server Administration	Lets you optimize your reporting servers for best performance. Use this tool to do load balancing, view the status of services, and a host of other functions.
Deployment	Lets you import and export data between your reporting servers.

Note: Table 5-1 is a quick reference to the administration tools. For detailed descriptions and step procedures, see the online Help or the *Administration and Security Guide* on the CD in the Docs\Symantec Enterprise Reporting directory.

About reports

Symantec Enterprise Reporting is an application that allows you to create reports and organize data dynamically. Symantec Enterprise Reporting lets you select, associate, and filter columns for the data that you want contained in the report, as well as arrange the graphic display of the reports.

Symantec ESM has several customizable reports and queries that let you view and present information about any aspect of your Symantec ESM application. Because the reports are Web-based, you can create reports from any computer that can access your reporting Web server.

Symantec ESM Reporting has three types of reports: state reports, trend reports, and queries. Trend and state reports let you view the security status of your network at a point in time, or observe changes over a period of time. Both of these report types let you include specific data in your report.

Warning: If you delete any of the reports that come with Symantec ESM Reporting, you must reinstall the reports package from your installation CD to restore them.

In addition, Symantec ESM Reporting uses Query Studio for creating queries. This tool lets you add or remove columns from queries and interactively link information that may not be in a report. When using queries, you can add, remove, filter, and organize report data that is in the columns as well as add or remove columns. In the user interface, queries are denoted with a pencil icon, while reports use a triangle icon. Both types of reports can be found in the Public Folders tab.

About state reports

The most basic reports in Symantec ESM Reporting are state reports. State reports display a snapshot of your network security status at a point in time. State reports use the most recent information that is in your Symantec ESM Reporting database. This information is derived from the most recent job run for each agent. You can schedule state reports to run at regular intervals to ensure that your reports contain the latest data.

State reports have prompts that let you select all available data or a subset of that data. For example, if a report displays information about your Symantec ESM Managers, you can select just those managers that you want. If a report has information about domains for a manager, you can select the managers, then select from among the domains on those managers and the report shows only information about those domains.
See “About Symantec ESM Reports” on page 155.

About trend reports

Trend reports show information over a period of time. You can select the beginning and end dates to show data for any period of time for which you have data. A graph shows how the state of your network has changed over time, and a table shows data for each point in time. Data for these reports is derived from policy runs on a per domain basis.

Note: Because state and trend reports derive data in different ways, state and trend reports for the same day may differ slightly. Because state reports use the last policy run for each agent regardless of domain or date, state reports may access a set of policy runs over wider range of dates and may report slightly different information.

Like state reports, trend reports have prompts that let you show trends for only the data that you want. You can use prompts to select or filter managers, domains, agents, or other data.
See “About Symantec ESM Reports” on page 155.

Note: For trend reports, when you select a policy, Symantec ESM Reporting only lets you select modules for that policy that have trend data available. If you select a policy that has no modules with trend data available, no modules appear in the selection menu and you cannot run the report.

About queries

Queries are a type of customizable report in Symantec ESM Reporting. After you run a query, you can filter the contents of columns, add columns, or remove columns. You can add related information, of you can completely change the query to select any available information and reporting on a completely different type of data. If you do this, you have the option to save the new query. You should save the query in a new place with a unique name.

Warning: If you overwrite the Symantec default queries, you must reinstall the original package to restore the query. Also, your new query may be overwritten when you install package updates.

When you create reports using queries, remember that you must use related data, or the Query Studio may find a meaningless relationship among the information objects, or it may give you an error indicating that it could not find a relationship.

See "About the Symantec ESM Reporting metadata model" on page 177.

Query Studio implements prompts. When you use information objects from certain query subjects, the Query Studio brings up prompt pages that let you select from the policies, modules, managers, and domains that you want. This allows you to focus your queries to only the information that you need. Different query subjects prompt for different data.

See "Query subject prompts" on page 179.

Query Studio is limited in that it does not offer all the aggregation features that are available in the report studio. Therefore, reports and queries with similar columns may differ slightly in numbers because of the way that the reports are aggregated. Generally, these issues can be overcome by adding columns to the queries that are automatically aggregated in the reports such as manager, agent or domain columns.

Also, if you use the Symantec standard queries to build new queries, you may get results that differ from similar reports due to some cascading limitations. To overcome this limitation, you should build a new query.

Query Studio has color limitations as well. When creating charts with Query Studio, the application uses a color scheme that assigns a color to the first data item and another color to the second data item. These colors cannot be changed unless you rearrange the data items. For example, if you create a report that has a column that indicates the number of red, yellow, and green messages, the Query Studio may assign the color blue to the bar indication the number of red messages, and the color red to the bar that indicates the number of green messages. To fix this, simply rearrange the columns so that the correct color is assigned to the correct column.

Locating reports

By default, all Symantec ESM Reporting reports are placed in the Public Folders tab. Reports in this area are accessible to all users that have the correct permissions. The My Folders tab is only accessible to your specific user account.

All the reports that come with Symantec ESM Reporting are placed in the Symantec ESM folder in the Public Folders tab. These reports are placed in either the Technical or the Executive subfolder, and then in one of several additional subfolders that further categorize the reports.
See "About Symantec ESM Reports" on page 155.

When you use the Report Studio to create new reports or modify existing reports, do not overwrite the default Symantec reports. Note that updates from Symantec may overwrite your changes.

Running Reports

After you locate the Symantec ESM Reporting reports, you can begin running them to get the information that you require.

To run reports

◆ Double-click the title of the report.

Note: When you run reports, if you have a large amount of data, Symantec Enterprise Reporting shows a circling arrow to indicate that the report is running. This arrow has a cancel button that allows you to stop the report and return to the interface. This button does not cancel the query to the database. If you start and stop several reports in succession using the cancel button, you will have multiple simultaneous queries to the database that can significantly reduce database performance.

Selecting report prompts

Most reports in Symantec ESM Reporting have prompts that let you filter data when you run the reports. These prompts are classified as optional or required. Asterisks indicate required prompts.

If a prompt is required, you must select at least one of the given values for the report to function. If you do not select a value for the prompt, the Next and Finish buttons remain dimmed and you cannot run your report.

If a prompt is optional, and you do not select any values for it, all values for the prompt are automatically selected, and data for each value displays in the report.

When you run a report, the prompt values that you select are automatically saved with the report. The next time that you run the same report, you can click the Finish button before proceeding through all of the prompt selection screens. When you do this, the report runs using saved prompt values for any prompts that you did not change.

Prompts use text selection boxes, drop-down menus, check boxes, and radio buttons to help you select the values. Single-value prompts are denoted with radio buttons and drop-down menus, while multiple-value prompts use check boxes and list boxes.

Your report may also have action buttons that are used to update values in certain prompt selection fields.

For example, if you run a report that groups data by managers and domains, you may see a list of managers, a button labeled Refresh Domains, and a list of domains. If you select all the managers, and then click the Refresh Domains button, the list of domains remains the same. If you select fewer than all of the managers, and you click the Refresh Domains button, the list changes to reflect only those domains that are on the managers that you selected. If you select a manager and do not click the Refresh Domains button, and then select a domain that is not on the manager that you selected, the report fails and the interface reports an error.

To select prompts for your reports:

◆ Do each of the following as necessary

- Select one or more values from a list box.
- Select only one value from a drop-down menu.
- Select one or more values from a check box.
- Select only one value from a radio button.
- Refresh to update prompt values.

Scheduling reports

You can schedule reports to run at a time that is convenient for you, such as during off hours when demands on the network are low.

You can schedule reports individually or in a group by using a job. You can schedule reports to run by minute, hourly, daily, weekly, monthly, or yearly.

Only one schedule can be associated with each report or job. If you require multiple schedules for the same report, you can create report views and then create a schedule for each report view. Jobs have their own schedules, and these schedules are independent from report schedules.

After you create a schedule, the report or job runs at the time and date specified. You can then manage the properties of your schedules.

The following procedures outline the methods necessary for creating a basic report schedule. For detailed steps to create group schedules, manage, change, suspend, or delete schedules, see the online Help, or the *Administration and Security Guide* on the CD in the Docs\Symantec Enterprise Reporting directory.

To schedule a report using a recurring interval

1. In Public Folders or My Folders, click the schedule button for the report that you want to schedule.
2. Under Frequency, select how often you want the schedule to run. The Frequency section is dynamic and changes with your selection. Wait until the page is updated before selecting the frequency.
3. Under Start, select the date and time when you want the schedule to start.
4. Under End, select when you want the schedule to end. If you want to create the schedule but not apply it right away, check **Disable the schedule** . To later enable the schedule, uncheck the check box.
5. Under Formats, click the format you want for the report output.
6. Under Languages, click **Select the languages** to select a different or additional language for the report.
7. Under Delivery, choose to save the report, print the report, or send the report by email. You must select at least one delivery method.

   Note: You are prompted for values only if the report specification or model includes prompts or if you have access to more than one sign-on, even if you selected the Prompt for values check box.

8. Click **OK**.

Note: To schedule a report to run once, set the end date and time to limit the report runs to one.

To run a scheduled entry once

1. From the Tools menu on the Welcome tab, click **Schedule Management**.
2. Click the Schedule tab and show the filter options.
3. In the Scope list, click the filter to use when showing the schedules.
4. In the Status list, click the status to use for filtering and then click **Apply** to see a list of scheduled entries.

   Note: To sort the entries by the modified time, click the Modified column header.

5. Click **Run a scheduled entry once** .

Exporting report information

When you run a report, Symantec ESM Reporting lets you save the report in one of several formats. These formats include report views, HTML, PDF, Microsoft Excel, XML, and comma separated values. These report formats can be saved and exported as necessary.

To save a report in a different format

1. Run a report
2. Click the button in the upper-right that converts the report to the desired format.
3. Save the report in the selected format.

Note: Reports saved in this manner may not be secure.
See "Securing saved reports" on page 109.

Emailing reports

You can also email the report directly to any user that has an account in Symantec Enterprise Reporting, or you can type in the address of the recipient.

Note: Ensure that you have set up your reporting server to communicate with your SMTP server. See the *Installation and Configuration Guide* for instructions on setting up this connection. You can find this guide on the CD in the Docs\Symantec Enterprise Reporting directory.

To email a report

1. Run a report.
2. Click **email**.
3. Do one or more of the following:
   - Select the Symantec ESM Reporting user to whom you want to email the report from the list of users.
   - Type the email address of the recipient of the report in the address box. Separate the addresses with semicolons.

Warning: Email sent using this function is insecure and may be intercepted and read by an unintended recipient.
See "Securing email" on page 109.

About Query Studio

Symantec ESM Reporting uses both reports and queries. Reports are set and cannot be modified outside of the Report Studio tool. Queries are dynamic and let you insert and remove information. The tables and graphs update automatically.
See "Using Report Studio" on page 144.

These functions are available because queries automatically open in the Query Studio tool. This tool uses a metadata model that lets you dynamically add and remove information from your queries.
See "Metadata model divisions" on page 138.
See "About the Symantec ESM Reporting metadata model" on page 177.

The metadata model is a product of a package that Symantec has created for Symantec ESM Reporting. Queries and reports in Symantec ESM Reporting do not function unless the Symantec ESM Reporting package is the currently selected package.

Symantec Enterprise reporting is capable of using multiple packages, however, Symantec ESM Reporting has only one package available. For more information on packages, and the Query Studio, see the Query Studio User Guide, and the other Symantec Enterprise Reporting documentation.

About using queries

Symantec ESM Reporting uses queries to let you search through your enterprise data. You can create a query from scratch, or you can use one of the many defined queries. The defined queries can be used in their default forms, or you can alter them to display exactly the information that you need.

This section of this document is intended to let you quickly review the features of the Query Studio. This section does not fully cover every feature of the Query Studio. For complete documentation of the Query Studio, see the *Query Studio User Guide* on the CD in Docs\Symantec Enterprise Reporting directory.

Planning your query

Before using the Query Studio, you must determine the question that you want to answer with your query. The following list outlines some questions that you may want to answer before beginning your query:

- Is the query related to the security state of your enterprise, or is it related to the administration of Symantec ESM?
- Who is the audience?
- What information should the query find? Do I want to know about my agents, policies, security levels, message counts, message information, or some other information?
- What is the scope of the query? Do I want to know about my enterprise, a section of my enterprise, or a single computer?
- How do I want to group my information? By manager, by policy, or do I want organize my data in another way?

If you have not planned what you want the report to say, and how you want to group it, it is possible to create queries that have little meaning. For example, if you create a query that has a column for managers, agents, policies, and modules, the report has little meaning unless you add a metric that explains something about those data items. You may want to display the number of red, yellow, and green messages on a specific agent. However, to do this, you would have to reorder the columns and possibly add a Domains column. If your report had columns ordered according to managers, domains, policies, modules, and agents, and then had columns for the numbers of green, yellow and red messages, you could easily see for any agent, the number of messages for each policy and module at each level. You could also easily locate the agent according manager and domain. You could order this query in several ways depending on what items are most important to you.

When you have answered appropriate planning questions you will be able to formulate an exact query to meet your needs. The remainder of this section explains how to use the Query Studio tool to create a query that is specific to your needs.

Data items

Queries use a metadata model that lets you find and insert information into your view. The metadata model is made up of folders, query subjects, information objects, facts, and filters.
Table 5-2 displays the icons in the metadata model that represent each object, and describe their functions.

Table 5-2 Metadata model components

Component	Icon	Description
Folder	📁	Folders hold all other objects that are in the metadata model. The metadata model uses folders
Query subject	▥	Query subjects represent tables in the database. They generally hold information objects.
Information object	▮	Information objects are the main report items. They represent columns in a report. Managers, agents, domains, and policies are examples of information objects. Information objects often relate to fields in a table in the database.

Table 5-2 Metadata model components

Component	Icon	Description
Fact	📐	A fact is a quantifiable column in a report. Examples of facts include numbers of messages, and numbers of types and severities of messages. Facts should generally be inserted into reports after information objects.
Filter	▽	Filters are convenient and powerful ways of quickly getting to the information that you need. When you add a filter to a report, you get only that information in your report that is specified by the filter. For example, if you added a filter named ‘Red Msgs Only’, any columns that you add to your report that have information about messages will only display information about red messages.

Metadata model divisions

The metadata model is divided into three major sections: Administration, Message Information, and Message Summaries. Each section is delineated by its own folder.

Each folder has many query subjects with information objects in it that you can use to build effective queries. For a detailed description of each data item, see “About the Query Studio metadata model” on page 177.

Data items from one section of the metadata model often do not pertain to other sections. Because each section of the model has its own specific purpose, combining data items from separate sections of the metadata model can result in errors or meaningless reports. For example if you were to take a query that had columns with data about the managers, policies, and messages, you could not add a column about account privileges without first removing the columns about policies and messages. Policies and messages are data items pertaining to security, and account privileges is a data item that relates to administration. Attempting to mix unrelated data types in a query results in meaningless reports and can generate errors.

Additionally, some columns that you can use in a query are meaningless unless they are grouped according to data that is in another column. For example, if you put a column in a query that displays manager information and then put in a column that has data on user permissions, the query has little value unless you put in a column that has information on user accounts.

Some examples of data items that have these types of dependencies include data items that display information about user permissions, agent properties, suppression information, change events, message information, agent counts, compliance percentages, severity counts, violation counts, and parameters.

Note: Symantec ESM Reports has two data items in the metadata model that may not contain any information. The Asset Tag and Description data items under Agent in the Administration folder are not supported in Symantec ESM 6.1, but may be supported in future versions. You can use an SQL tool to add information to these two fields in the Database.

In the Query Studio tool, the query subjects contain related information objects, facts and filters. When you create queries, use the data items from within a single query subject.

Administration

The administration folder contains all the data items that relate to the administration of your Symantec ESM application. Data items in this section relate to Symantec ESM user accounts, message suppressions, audit schedules, manager-agent communications configurations and similar types of data.

Message Information

The Message Information section of the metadata model contains the security related information objects that you need to find the security state of computers in your enterprise. Information objects in this section include policies, message titles, message descriptions, and change events.

These information objects are intended to be used to locate individual issues and display the details about specific problems at the agent level. Reports that you generate with these data items are intended for the people responsible for operations and day-to-day computer security maintenance.

Message Summaries

The Message Summaries section contains all of the fact items that are in the metadata model. Use these fact items with the information objects that are in the Message Information section to quantify your queries. Fact item columns should be placed in the report after the information objects.

These data objects are intended to create reports that display the current overall security state of your enterprise. The facts let you quantify the security state of your computers to use in reports to executives and managers.

Using defined queries

Symantec ESM Reporting uses several defined queries that you can use as a starting point when working in Query Studio. You can use these queries in their original format, but they are intended to be modified in order to find data that is specific to your needs.

The defined queries are in the same folders with the standard reports, but queries have the word query in the title. If you have changed the name of the queries, or have created your own queries, you can differentiate between reports and queries because queries are marked with pencil icons while reports are marked with triangles.

Using queries requires you to select data items from the metadata model and add them to your query. By default, newly added columns attach to the right of the last column in the report, but you can place them anywhere in the report. You can also add graphs, charts and other data to the report.

Add or remove columns in queries

When using queries, one of the most basic tasks is to add columns to the query. The columns in the query are created from a data item in the metadata model. You can add columns that show data about any information in your ESM database, so adding and removing columns is the simplest way to show the exact data that you need in your query.

You can place columns in any location in the report, including to the left of, to the right of, or between existing columns. You can also add information that spans existing columns by adding information above the columns. For complete information on how to add information to a query and on the effects of adding information to a specific location in a query, see the *Query Studio User Guide* on the CD in the Docs\Symantec Enterprise Reporting directory.

To add data to a defined query

1. Select Insert Data from the menu on the upper-left side of the screen to see the metadata model.
2. Determine the type of report that you are trying to create. Depending of the type report that you want to create, do one of the following:
   - If the query is for a Symantec ESM Administration report, use data items in the Administration folder of the metadata model.
   - If the query is intended to provide specific information to operations personnel to improve the security of agent computers, use data items in the Message Information folder in the metadata model.

- If the query is intended for management to provide information on current security status, use the data items in the Message Summaries folder of the metadata model.

3 Expand the metadata model to locate the data items that you want to include in the query.

4 Do one of the following:

- To add the data item column to the right of all information, select the data item and click the Insert button on the lower-left of the screen.
- To add the data item to the left of any column in the report, drag the data item heading of any column, and drop it there. The new column is added to the left of that column. This works to place a column between two existing columns.
- To add information that spans columns, drag the data item to a location directly above the columns, and then drop it there.

Note: When you drag data items to locations in the query, a small black line shows the location where the data will be added when you drop it

To remove columns from queries

1 Right-click the heading of the column that you want to remove.

2 Select Delete from the menu.

Filter queries

Filters let you remove unwanted data from a query. For example, if you were creating a query that showed audits that had completed in the last week, and you wanted to filter for only those audits that finished with errors, you could build the query, and then place a filter called Errors Only in the query. The query would then display only those audits that had errors.

You can filter your queries in two ways. You can use a filter that is part of the metadata model to encompass an entire query. An example of this type of filter is the Errors Only example described previously. You can also filter by column. When you filter on columns, the interface provides you with each available value in the column. You use check boxes to select those values that you want to display in the report.

For example, if you had a query that uses a Managers column and you had data for 15 managers, you could filter that column to show data for only the first three managers in the database.

To use filters that are in the metadata model

- Select the filter from the metadata model, and click **Insert**.

To filter by column

1. Click on the heading of the column that you want to filter.
2. Click the Filter icon.
   See Table 5-2 for a graphic that shows what the Filter icon looks like.
3. At the bottom of the query, check the boxes that correspond to the values that you want to display in the report.
4. Click **OK**.

Format queries

You can format the columns in a query to display only a specific number of characters in a column. For example, if you had a manager called ‘First_Enterprise_Manager’, you could format the column that displays the manager name to display only a certain number of characters. If you set the character limit to nine, the column would display ‘First_Ent’. This setting is useful when you have many columns in your query and need to save space.

To format your queries

1. Click **Edit Data** from the menu on the upper-left of the screen.
2. Click on the heading of the column that you want to format.
3. Click **Format** from the menu on the left side of the screen.
4. From the Category drop-down menu, select **Text**.
5. In the Number of Visible Characters field, type the number of characters that you want to see.
6. Click **OK**.

Sort queries

You can sort columns in queries in ascending or descending order. The columns that are to the right of the sorted column change in accordance with the sort.

To sort columns in a query

1. Click **Edit Data** from the menu on the upper-left of the screen.
2. Click on the heading of the column that you want to sort.
3. Click **Sort** from the menu on the left of your screen.

4 Under Sort Order, click the radio button that corresponds to the type of sort that you want.

5 Click **OK**.

Summarize queries

When you summarize queries, Symantec Enterprise Reporting displays counts of items in a column that has subordinate columns. Summarizing a query is a good way to quickly quantify it. For example if you had a report that displayed a column for managers, then domains, then agents, and showed the number of red messages on each agent, you could summarize the report. It would then display the numbers of red messages on the domains and managers as well.

For a complete explanation of summarizing queries, see the *Query Studio User Guide* on the CD in the Docs\Symantec Enterprise Reporting directory.

To summarize a report

1 Click **Edit Data** from the menu on the upper-left of the screen.

2 Click on the heading of the column that you want to summarize.

3 Click **Summarize** in the menu on the left of your screen.

4 From the Summary for Footers drop-down menu, click **Count**.

5 Click **OK**.

Adding charts to a query

You can add charts and graphs any query that has is quantified using a fact as a data item in the query. The Query Studio has more than 25 charts and graphs that you can use to display your data.

Note: Charts are unavailable in queries that do not contain at least one fact as a data item.

Note: Because charts use default colors, using a chart to display information on red, yellow, and green agents may be misleading. For example, unless you place the columns in exact order, the bar in a bar chart that displays the number of green agents may be colored red. To solve this issue, rearrange the order of the columns in the report until the chart colors correspond to data type.

To add a chart to a query

1. Create a query that uses a fact or other measured data item.
2. In the menu on the upper-left side of the screen, click **Change Layout**.
3. Click **Chart...** in the menu on the left of your screen.
4. In the **Chart Type** menu, select the chart category that you want.
5. Click the radio button that corresponds to the chart style that you want.
6. Click **OK**.

About custom groups in queries

You can create custom groups to produce a new report item containing values that are meaningful to you. Use custom groups to:

- Convert a list of numeric results into broader categories.
- Reduce the number of values into a smaller, more meaningful set.

Custom groups are available in Symantec Enterprise Reporting. See the *Query Studio User Guide*. You can find this guide on the CD in the Docs\Symantec Enterprise Reporting directory.

About Report Studio

The Query Studio is a unique and effective tool for creating queries on the fly that answer specific security questions. It is intended to be quick and effective. However, you may want to create reports that have a more customized look and style. Report studio lets you do this. You can use Report Studio to create a report from scratch, or you can open an existing report in Report Studio and modify it.

Using Report Studio

This section of this document lets you quickly review the basic features of the Report Studio so that you can become familiar with the tool. To fully understand all the features of the report studio tool, see the *Report Studio User Guide*. You can find this guide on the CD in the Docs\Symantec Enterprise Reporting directory.

Planning your report

Before using the Report Studio, you must determine the question that you want to answer with your report. The following list outlines some questions that you may want to answer before beginning to build your report:

- Is the report related to the security state of your enterprise, or is it related to the administration of Symantec ESM?
- Who is the audience?
- What information should the report find? Do I want to know about my agents, policies, security levels, message counts, message information, or some other information?
- What is the scope of the report? Do I want to know about my enterprise, a section of my enterprise, or a single computer?
- How do I want to group my information? By manager, by policy, or do I want to organize my data in another way?

When you have answered these questions, you will be able to formulate a report to meet your needs. The remainder of this section explains how to use the Report Studio tool to create a report that is specific to your needs.

Opening Report Studio

Report Studio is a separate application from Symantec ESM Reports, however, you can access it from the Symantec ESM Reporting interface.

To open Report Studio

- In the Symantec ESM Reporting interface, click **Report Studio**. This link is always available in the Symantec ESM Reporting interface.
  - If you click this link when a report or query is open, that report or query opens in Report Studio as a template.
  - If no report is open when you open Report Studio, the tool prompts you to choose the type of report that you want to create, and then open a blank report.

Creating a new report

You can build a new report using the Report studio tool. Symantec ESM Reporting includes a template that you can use to create your own reports. You can also use one of the default report types that is found in Report Studio. See the Report Studio online help for information about creating a new report.

Modifying an existing report

You can use one of the reports in Symantec ESM Reports as a template that you can modify. If you have a report open in the Symantec ESM Reporting interface, and you open the Report Studio tool from the interface, the report is automatically imported into the Report Studio tool as a template. You can then modify the report to create new reports.

Note: Do not overwrite existing Symantec ESM Reports. If you overwrite them, you must reinstall the package to recover the original report. Also, if you overwrite the existing reports, your changes can be lost when you update the reporting package.

Typically, you would not use queries as templates for creating reports because such reports will not work when used with multiple packages. However, Symantec ESM Reports only has one package, so unless you have other packages, you can use queries as report templates.

About insertable objects

The Report Studio tool uses drag-and-drop functionality to let you quickly build reports. The tool lets you drag items into the report and place them exactly where you need them.

Note: When you place items in a report, if you do not place them directly next to an existing item, the report tool may not be able to place the item in the report.

You can place item in reports from the metadata model, from the toolbox, or from other areas in the explorer bar. You can add charts, tables, graphics, text HTML, links, and other types of data to your reports.

See the online Help or the *Report Studio User Guide* for complete information on adding data to your reports. You can find this guide on the CD in the Docs\Symantec Enterprise Reporting directory.

Toolbox items

In addition to text and images, the Toolbox tab in the Insertable Objects pane contains other objects that you can add to a report. To add an object, drag or double-click it from the Toolbox tab.

Table 5-3 Toolbox items

Object	Description
Calculation	Adds a calculated column.
Block	Adds an empty block, a container in which you can insert other objects. This is useful for controlling where objects appear.
Table	Adds a table, a container in which you can insert other objects. This is useful for controlling where objects appear.
Hyperlink	Adds a hyperlink so that users can jump to another place, such as a Web site.
Row Number	Numbers each row of data returned when the report is run.
HTML	Adds a container in which you can insert HTML code, such as a link to a multimedia file. Note: HTML items appear only when you run the report in HTML format.
Layout Component Reference	Adds a reference to another object. Useful when you want to reuse an object.
Conditional Block List	Adds an empty block that you can use for conditional formatting.
Field Set	Adds an empty block that has a caption. This is similar to the Block object, but with a caption.
Hyperlink Button	Adds a hyperlink in the form of a button.

About the metadata model

You can insert items from the metadata model in the Insertable Objects pane into your reports. The metadata model is identical to the Query Studio metadata model. Appendix B explains the metadata model and all of its data items.

Deleting an existing report

You can delete existing reports in the Symantec ESM Reports user interface.

To delete an existing report

1. Navigate to the report that you want to delete.
2. In the column on the right, click **More...**
3. Click **Delete**.
4. Click **OK**.

Configuring and updating the database

You can configure and update the Symantec Enterprise Reporting Database using SQL commands. This section describes how to do the following:

- Enable trending
- Update agent description and asset tag information in the database
- Purge old data from the database.

Enabling trending

You can enable trending for Symantec ESM Reporting categories. By default, trending is available for the policy compliance category. You can also enable trending in other categories so that the Symantec ESM Reporting Database Link will import and retain proper information in the database to do trend reports. The available categories are listed in Table 5-4.

Note: Trending is not retroactive. You can only create trended reports on data transferred after trending is enabled.

Table 5-4 Category identifiers

Category	Category ID
Policy Compliance	1
Patch Assessment	2
Change Notification	3
ESM Error	4
System Error	5

Table 5-4 Category identifiers

Category	Category ID
ESM Administrative Information	6
System Information	7
ICE	8

In order to enable trending, you will need to use Structured Query Language (SQL) commands in the Symantec ESM Reporting database. The following SQL commands are examples of standard SQL commands that you can use.

The following command is an example of how to show all top-level categories in the database. Future updates may add categories that are not displayed in Table 5-4.

To show all top level categories

- Use the following example command:

```
SELECT STRING_VALUE AS CATEGORY, CATEGORY_ID AS CATEGORY FROM
ESMDB10.CATEGORY, ESMDB10.CONTENT_STRING_MAP WHERE CATEGORY_TYPE = 1
AND CATEGORY_NAME_CODE = STRING_CODE
```

The following command is an example of how to enable trending for all modules in a category.

To enable trending for modules for the category Change Notification

- Use the following example command:

```
UPDATE ESMDB10.CATEGORY SET TREND = 1 WHERE PARENT_CATEGORY_ID =
(SELECT CATEGORY_ID FROM ESMDB10.CATEGORY,
ESMDB10.CONTENT_STRING_MAP WHERE CATEGORY_TYPE = 1 AND
CATEGORY_NAME_CODE = STRING_CODE AND STRING_VALUE = 'Change
Notification')
```

The following is an example of how to disable trending all modules in a category.

To disable trending for modules for the category Change Notification

- Use the following example command

```
UPDATE ESMDB10.CATEGORY SET TREND = 0 WHERE PARENT_CATEGORY_ID =
(SELECT CATEGORY_ID FROM ESMDB10.CATEGORY,
ESMDB10.CONTENT_STRING_MAP WHERE CATEGORY_TYPE = 1 AND
CATEGORY_NAME_CODE = STRING_CODE AND STRING_VALUE = 'Change
Notification')
```

You can enable trending for all categories that incorporate a specific module. The following set of commands gives an example of how to see all the top-level categories for a specific module.

To show top level categories for module Account Integrity

- Use the following example command set:

```
SELECT STRING_VALUE AS CATEGORY, CATEGORY_ID FROM ESMDB10.CATEGORY,
ESMDB10.CONTENT_STRING_MAP WHERE CATEGORY_TYPE = 1 AND
CATEGORY_NAME_CODE = STRING_CODE AND CATEGORY_ID IN (SELECT
PARENT_CATEGORY_ID FROM ESMDB10.CATEGORY,
ESMDB10.CONTENT_STRING_MAP WHERE CATEGORY_TYPE = 2 AND
CATEGORY_NAME_CODE = STRING_CODE AND STRING_VALUE = 'Account
Integrity')
```

```
Category                              CATEGORY_ID

System Information                         7

ESM Administrative Information             6

System Error                               5

Change Notification                        3

Policy Compliance                          1
```

The following command set shows an example of how to enable trending for all categories that use the Account Integrity module

To enable trending for the module Account Integrity

- Use the following example command set:

```
update esmdb10.category set trend = 1 where category_id in (select
category_id from esmdb10.category, esmdb10.content_string_map where

category_type = 2 and category_name_code = string_code and
string_value = 'Account Integrity')
```

You can disable trending for all categories that use a specific module. The following set of commands shows an example of how to do this.

To disable trending for the module Account Integrity

- Use the following example command set:

```
UPDATE ESMDB10.CATEGORY SET TREND = 0 WHERE CATEGORY_ID IN (SELECT
CATEGORY_ID FROM ESMDB10.CATEGORY, ESMDB10.CONTENT_STRING_MAP WHERE
CATEGORY_TYPE = 2 AND CATEGORY_NAME_CODE = STRING_CODE AND
STRING_VALUE = 'Account Integrity')
```

Updating description information in the database

Future versions Symantec ESM will have a manager-console enhancement that lets you add description and asset tag information for agents in the Agent Properties dialog box in the Symantec ESM Console Fields to hold this information are found in the Symantec Enterprise Reporting Database. If you do not have this enhancement, or you have not entered any agent information these fields are blank, and the description and asset tag information objects in the metadata model are blank when you use them in queries or reports. Paths to these blank information objects are:

- Symantec ESM > Administration > Manager - Domain - Agent > Agent Properties > Description
- Symantec ESM > Administration > Manager - Domain - Agent > Agent Properties > Asset Tag

If you don't have the Symantec ESM enhancement, you can still enter description and asset tag information using SQL commands.

To add description and asset tag data to the database

◆ Do one or more of the following:

- To update the description field, use the following SQL command:

  ```
  UPDATE ESMDB10.AGENT SET DESCRIPTION = '<My Description>'
  WHERE AGENT_NAME = '<agent name>'
  ```

- To update the asset tag field, use the following SQL command:

  ```
  UPDATE ESMDB10.AGENT SET ASSET_TAG = '<My asset tag data>'
  WHERE AGENT_NAME = '<agent name>'
  ```

You can also use an SQL command to verify that the information is correct, or you can run a query.

To verify your data using SQL commands

◆ Do one or more of the following:

- To verify your description information, use the following command:

  ```
  SELECT AGENT_NAME, DESCRIPTION FROM ESMDB10.AGENT
  ```

- To verify your asset tag information, use the following command:

  ```
  SELECT AGENT_NAME, ASSET_TAG FROM ESMDB10.AGENT
  ```

Note: The console enhancement is not available in current versions of Symantec ESM. Future versions will have this enhancement. If you update a description or asset tag in the console, it will overwrite any changes that you made using these SQL commands.

Removing old data from your database

Symantec Enterprise Reporting has a utility that purges your Symantec Enterprise Reporting database. This utility has several parameters that let you specify exactly what data to purge. This purge utility installs with the Symantec Reporting Database Link. The utility is a Java executable, and requires a properties file to run.

About the properties file

Table 5-5 outlines and describes each statement that is required in the properties file for the DBPurge utility to run correctly.

Table 5-5 DBPurge utility properties file

Property	Description	Example
dbpurger.jdbc.url	This specifies your datasource.	dbpurger.jdbc.url=jdbc\:db2\://localhost\:6789/ESM
dbpurger.user	This specifies the user name of a user authorized to access the Symantec Enterprise Reporting database.	dbpurger.user=<DBUserName>
dbpurger.password	This specifies the password for the user account.	dbpurger.password=<Pa$$w0rd>
dbpurger.jdbc.driver.jar	This specifies the java zip file than contains the driver for the database.	dbpurger.jdbc.driver.jar=lib/db2java.zip
dbpurger.jdbc.driver	This specifies the JDBC driver that is used to connect the Symantec Reporting Database Link to the database.	dbpurger.jdbc.driver=COM.ibm.db2.jdbc.net.DB2Driver
hibernate.properties.filename	This specifies the hibernate properties file for your database driver.	hibernate.properties.filename=db2.hibernate.properties
db.schema	This specifies the name of the database schema. The default name is ESMDB10.	db.schema=ESMDB10
purge.category_trend	This is a boolean that specifies whether to purge the CATEGORY_TREND table in the database. Valid values are true and false.	purge.category_trend=true

Table 5-5 DBPurge utility properties file

Property	Description	Example
purge.policy_changelog	This is a boolean that specifies whether to purge the POLICY_CHANGELOG table in the database. Valid values are true and false.	purge.policy_changelog=true
purge.chg_message_event	This is a boolean that specifies whether to purge the CHG_MESSAGE_EVENT table in the database. Valid values are true and false.	purge.chg_message_event=true
purge.manager_poll_error	This is a boolean that specifies whether to purge the MANAGER_POLL_ERROR table in the database. Valid values are true and false.	purge.manager_poll_error=true
purge.days_to_keep	This specifies the number of days of data that remain in the database. A day is defined as the time between midnight and midnight. The current day is disregarded.	purge.days_to_keep=90
purge.rows_per_transaction	This specifies the number of rows to purge with each call to the database. Setting this parameter requires special consideration. See "Using the purge.rows_per_transaction parameter" on page 154 for more information.	purge.rows_per_transaction=5000

Locating and using the DBPurger utility files

The DBPurger utility uses a .bat file to run. Running this .bat file accesses the DBPurger utility's Java executable. This .bat file also adds the appropriate files to the computer's path so that the DBPurger utility can function correctly.

To run the DBPurger

1. Modify the dbpurger.properties file to contain data that is specific to your database. The properties file can be found at the following path:
   - Windows: \Program Files\Symantec\ESM Reporting Database Link\bin\dbpurger.properties
   - UNIX: /opt/Symantec/ESM Reporting Database Link/bin/dbpurger.properties
2. Do one of the following:
   - For Windows, run the DBPurger.bat file that is in the same folder as the properties file.
   - For UNIX, run the dbpurger.sh file that is in the same folder as the properties file.

Using the purge.rows_per_transaction parameter

The purge.rows_per_transaction parameter has some characteristics that you need to consider. The number that you specify tells the DBPurge utility the number of rows in the database tables to delete per call to the database. If you set this value to 0, the DBPurge utility deletes all applicable rows in one call to the database. However, when you set this value to 0, the database locks and cannot accept another call during the time that the DBPurge utility is deleting rows, and data from the Symantec Reporting Database Link can be lost. If you set this value to a number greater than 0, the database checks for other calls between purge commands. However, if you set the number to a low value, the DBPurge utility must send a large number of separate commands to the database and purge utility may take a substantial amount of time to purge the database. The default value is 5000, however, you may need to change this value to optimize it for your database.

About Symantec ESM Reports

This appendix includes the following topic:

About the reports in Symantec ESM Reporting

Symantec ESM Reports includes several default reports that you can use to determine the state of your Symantec ESM Agents. Reports come in several categories, including executive and technical level reports. Reports include topics on agent states, audit errors, and Symantec ESM management. The following is a description of each report and query in Symantec ESM Reports.

Note: If you generate a report that contains no data, Symantec Enterprise Reporting may return an error entitled General Error. If you are using a reporting Web server on the local host, this error gives stack trace details for the error in addition to reporting the error.

Account domain permissions (query)

This query retrieves the permissions that each Symantec ESM user account has for each domain on every manager in the database. Account permissions columns show whether a user account is active or locked out, whether a user can view or modify domains, and whether a user can run policies and update snapshots.

Default path: Public Folders > Symantec ESM > Technical > Administration > Accounts

Account permissions (query)

Use this query as a template to create your own custom queries in Query Studio using the Account Permissions query subject in the metadata model.

Default path: Public Folders > Symantec ESM > Technical > Custom Queries

Account policy permissions (query)

This query retrieves the permissions that each Symantec ESM user account has for each policy on every manager in the database. Account permissions columns show whether a user account is active or locked out and whether a user can view, modify, or run a policy on the manager.

Default path: Public Folders > Symantec ESM > Technical > Administration > Accounts

Account template permissions (query)

This query displays the permissions that each Symantec ESM user account has for each template on every manager in the database. Account permissions columns show whether a user account is active or locked out and whether a user can read or modify a template on the manager.

Default path: Public Folders > Symantec ESM > Technical > Administration > Accounts

Agent audit schedule

This report displays the scheduled start time and date for audits of the agents on selected managers. You select a policy with its related managers. The report displays a schedule of the start times for the agents that are associated with the selected policies and managers. Additional information in the report includes the job ID and module names for selected policies.

Default path: Public Folders > Symantec ESM > Technical > Administration > Audits

Agent audit schedule (query)

This query retrieves the start time and date for audits of all agents that are on selected managers. The query lets you select any or all managers and policies. It then displays a schedule of the start times for audits of the agents on selected managers using selected policies. You can also specify certain domains on a manager and get audit information for those domains. Additional information in the report includes the job ID and module names for selected policies that were audited.

Default path: Public Folders > Symantec ESM > Technical > Administration > Audits

Agent compliance distribution by line of business

This report shows the distribution of agents in a domain, as a function of compliance percentages. A bar chart shows the number of agents in each compliance percentage category. You select the domain, manager, policy, and module for which you want to view data about the distribution of reporting agents.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Compliance Percentage

Agent compliance Distribution by manager

This report shows the distribution of agents on a manager as a function of compliance percentages. A bar chart shows the number of agents in each compliance percentage category. You select the manager, domain, policy, and module for which you want to retrieve data about the distribution of the reporting agents.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Compliance Percentage

Agent compliance (query)

This query lists policy compliance percentages for agents in your enterprise. This query displays policy compliance data for selected policies and related modules for selected managers and domains. It also shows the date and time of the policy run from which the data was retrieved. Data is taken from the most recent successful policy run for each agent.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Compliance Percentage

Agent counts by manager

This report displays the number of agents in each domain on every manager in your database. It also shows the total number of agents on every manager.

Default path: Public Folders > Symantec ESM > Technical > Administration > Agents

Agent counts by manager (query)

This query retrieves the number of agents in each domain on every manager in your database.

Default path: Public Folders > Symantec ESM > Technical > Administration > Agents

Agent level (query)

Use this query to retrieve security levels for agents on any or all managers and domains in your enterprise. This query displays the agent level (either red, yellow, or green) for all agents on selected managers and domains. You can select any or all managers and domains and the query reports data about the associated agents. You can also select any or all polices and modules. The query shows security levels for each agent that is included in your selections. The query also shows the date of the policy runs from which the data was retrieved.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Agent Level

Agent level by line of business

This report shows the number of agents at each security level for a selected module in a selected domain. When you make the domain, manager, policy, then module selections, the report displays the number of agents at each level, grouped by module and then by domain. The report displays data as both a chart and a table.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Agent Level

Agent level by line of business (query)

This query retrieves agent security levels for all agents in selected domains. When you make the domain, manager, policy, then module selections, the query displays the agent levels of all agents for all selected managers and domains. The query also shows the date and time of the policy run from which the data was retrieved. The query displays data in table form. You can modify the query to meet your needs.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Agent Level

Agent level by manager

This report shows agent security levels for agents that are audited by specific managers. It lets you select a policy with any or all related modules, and then it shows you security levels for all agents on selected managers and the specified domain. The report displays data as both a chart and a table.

Note: In this report, when reporting on all modules, agent counts for the All Modules row may not appear to correlate with the agent count in the individual modules. The reason for this is that the All Modules row assesses the overall security level of the agents while the individual module rows assess the security level of each agent in regard to a single module only.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Agent Level

Agent level by manager (query)

This query lists agent security levels for agents that are examined by specific managers. It lets you select a policy with any or all related modules, along with any or all managers and domains. It then shows you the number of agents at every security level on the selected managers.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Agent Level

Agent properties (query)

This query displays the properties of each agent on every manager in your database. The properties columns that this query shows include Platform, Symantec ESM Version, SU Version, OS, Agent Name, Port, Protocol, Description, and Asset Tag.

Default path: Public Folders > Symantec ESM > Technical > Administration > Agents

Agent summaries (query)

Use this query as a template to create your own custom queries in Query Studio using the Agent Summaries query subject in the metadata model.

Default path: Public Folders > Symantec ESM > Technical > Custom Queries

Agent Summary

This report shows the number of red, yellow, and green messages for agents that you select. You select the policy, modules, managers, domains, and agents, and the report displays the agent data from the most recent policy run sorted by category, module, manager, and domain. The report also displays the total number of messages and the date of the policy run.

Default path: Public Folders > Symantec ESM > Technical > Console Views

Agent trends (query)

Use this query as a template to create your own custom queries in Query Studio using the Agent Trends query subject in the metadata model.

Default path: Public Folders > Symantec ESM > Technical > Custom Queries

Agent violations (query)

This query retrieves information about policy violations on your agents. The query displays policy compliance data for selected policies and related modules on each selected manager and domain. Results are grouped by policies and modules. The query also shows the number of violations by severity levels.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Violation Counts

Agents not assigned to user-defined domains (query)

This query retrieves the name of every Symantec ESM Agent that is registered to a manager but is not listed in a user-defined domain. These agents appear only in the All Agents domain.

Default path: Public Folders > Symantec ESM > Technical > Administration > Agents

Agents not running a policy before a specified date

This report displays the agents that will not run a specific policy until after a specified date. You select a policy, manager, domain, and audit date, and the report shows which of the selected agents will not run the policy until after the date you select.

Default path: Public Folders > Symantec ESM > Technical > Administration > Audits

Agents with errors by line of business

This report shows the number of agents in a domain that are reporting errors. The report displays a graph and a table. When you select, the policy, the domain, and the manager, the report shows the number of agents with audit errors for each domain and manager. Data is for the most recent policy run for each agent.

Default path: Public Folders > Symantec ESM > Executive > Administration

Audit (query)

Use this query as a template to create your own custom queries in Query Studio using the Audit query subject in the metadata model.

Default path: Public Folders > Symantec ESM > Technical > Custom Queries

Audit errors by line of business (query)

This report shows the number of agents in a domain that are reporting errors. The report groups the error messages by domain, manager and agent. When you select domains, managers, and policies, the report shows audit error messages for each agent for the most recent policy run.

Default path: Public Folders > Symantec ESM > Technical > Administration > Errors

Audit errors (query)

Use this query to retrieve all audit errors on managers and domains in your enterprise. The tabular information is grouped according to manager, domain, and policy. It also shows the job ID, the agent error, the module name, and the module error. You can filter the query based on any of these categories.

Default path: Public Folders > Symantec ESM > Technical > Administration > Errors

Note: Error descriptions are truncated to 510 characters. This is also true in Symantec ESM.

Audits scheduled for today (query)

This query lists the audits that are scheduled to run on the current day. This report shows the manager name, the policy name, the job ID, the start time, and the run state for the policies.

Default path: Public Folders > Symantec ESM > Technical > Administration > Audits

Change event details

This tabular report shows how agents have been changed since the last snapshot. You can specify policy, module, and severity, on any or all managers, domains, and agents. The report generates event titles, names, information, and descriptions for change events for each agent you select.

Default path: Public Folders > Symantec ESM > Technical > Message Information > Change Notification

Change events (query)

Use this query as a template to create your own custom queries in Query Studio using the Change Events query subject in the metadata model.

Default path: Public Folders > Symantec ESM > Technical > Custom Queries

Compliance by line of business

This report shows policy compliance percentages for selected domains. It lets you select a policy with any or all related modules, and then it displays policy compliance percentage data about that policy for all selected managers and domains. A policy compliance percentage figure for a domain is a figure that represents the aggregate of policy compliance percentages of all agents in the domain.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Compliance Percentage

Compliance by line of business (query)

This query retrieves policy compliance percentages for selected domains. You select a policy with any or all related modules, and then the query retrieves policy compliance percentage data about that policy for all selected managers and domains. The query displays data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Compliance Percentage

Compliance by manager

This report shows policy compliance percentages for managers. It lets you select a policy with any or all related modules, and a selected domain, and then it shows you policy compliance percentage data about that policy for selected managers. Information includes module, manager, and compliance percentage information. The report displays data as both a bar chart and a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Compliance Percentage

Compliance by manager (query)

This query retrieves policy compliance percentages for managers. It lets you select a policy with any or all related modules, as well as the domains and managers for which you want data, and then it shows you policy compliance percentage data about each module for the selected policy on selected managers. Information includes module, manager, domain, and compliance percentage information.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Compliance Percentage

Daily agent level trend by line of business

This report shows daily agent security level trends for a selected manager and domain. You select a policy with a related module on any manager and domain in your enterprise. After you select a date range, the report displays a trend chart that shows the number of agents for that manager and domain that are at each security level (either red, yellow, or green) for the selected policy and its related module. The report displays data as both a chart and a table.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Agent Level

Daily agent level trend by manager

This report shows daily agent security level trends for a selected manager. You select a policy with a related module on any manager and domain in your enterprise. You then select a date range, and the report displays a trend chart that shows the number of agents in the selected domain at each security level (red, yellow, and green) for the selected policy and its related module. The report also displays the data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Agent Level

Daily compliance trend by line of business

This report shows daily compliance percentage trends for a selected domain. You select a policy with a related module on any manager and domain in your enterprise. After you select a date range, the report displays a trend chart that shows the aggregate level of compliance for all agents in the domain. The report also displays data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Compliance Percentage

Daily compliance trend by manager

This report shows daily compliance percentage trends for a selected manager. You can select a policy with a module on any manager and domain in your enterprise. You then select a date range, and the report displays a trend chart that shows the aggregate level of compliance for a selected domain. The report also displays the data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Compliance Percentage

Daily violations trend by line of business

This report shows the daily policy violation trends for any selected module. You select a policy with a related module, and then select managers, domains, and a date range. The report displays a trend chart that shows policy violations for a selected manager and domain. The report also displays the data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Violation Counts

Daily violations trend by manager

This report shows daily policy violation trends for a selected manager. You make policy, module, manager, domain, and date range selections, and the report displays a trend chart that shows policy violations for all agents that are examined by the selected manager and domain. The report also displays data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Violation Counts

Domain trends (query)

Use this query as a template to create your own custom queries in Query Studio using the Domain Trends query subject in the metadata model.

Default path: Public Folders > Symantec ESM > Technical > Custom Queries

License (query)

Use this query as a template to create your own custom queries in Query Studio using the License query subject in the metadata model.

Default path: Public Folders > Symantec ESM > Technical > Custom Queries

License counts by manager (query)

This report shows the number of licenses that are registered to each manager. You select one or more managers, and the query displays the manager name, the total number of agent licenses that are registered to that manager, the number of licenses that are being used, and the number of licenses that are available.

Default path: Public Folders > Symantec ESM > Technical > Console Views

Manager - domain - agent (query)

Use this query as a template to create your own custom queries in Query Studio using the Manager - Domain - Agent query subject in the metadata model.

Default path: Public Folders > Symantec ESM > Technical > Custom Queries

Message compliance by line of business

This report shows whether agents in a domain comply with the security conditions that are reported by specific messages in a policy. When you select a policy and a message from that policy, the report displays whether each agent in every user-defined domain in your database complies or does not comply with the condition that is reported by the selected message.

Default path: Public Folders > Symantec ESM > Executive > Administration

Note: In order to minimize duplicate data entries from a single agent, this report shows data for only user-defined domains.

Message details - found issues

This report shows the details of messages that were reported by the agents that you select. The report lets you select the policy, category, module, message severity, manager, domain, and agents, then it shows you the messages that the managers, domains, and agents that you select reported during the last policy run.

Default path: Public Folders > Symantec ESM > Technical > Message Information

Messages (query)

Use this query as a template to create your own custom queries in Query Studio using the Messages query subject in the metadata model.

Default path: Public Folders > Symantec ESM > Technical > Custom Queries

Monthly agent level trend by line of business

This report shows monthly agent security level trends for a selected manager and domain. You select a policy with a related module on any manager and domain in your enterprise. After you select a date range, the report displays a trend chart that shows the number of agents for that manager and domain that are at each security level (either red, yellow, or green) for the selected policy and its related module. The report displays data as both a chart and a table.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Agent Level

Monthly agent level trend by manager

This report shows monthly agent security level trends for a selected manager. You select a policy with a related module on any manager and domain in your enterprise. You then select a date range, and the report displays a trend chart that shows the number of agents in the selected domain at each security level (red, yellow, and green) for the selected policy and its related module. The report also displays the data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Agent Level

Monthly compliance trend by line of business

This report shows monthly compliance percentage trends for a selected domain. You select a policy with a related module on any manager and domain in your enterprise. After you select a date range, the report displays a trend chart that shows the aggregate level of compliance for all agents in the domain. The report also displays data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Compliance Percentage

Monthly compliance trend by manager

This report shows monthly compliance percentage trends for a selected manager. You can select a policy with a module on any manager and domain in your enterprise. You then select a date range, and the report displays a trend chart that shows the aggregate level of compliance for a selected domain. The report also displays the data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Compliance Percentage

Monthly violations trend by line of business

This report shows the monthly policy violation trends for any selected module. You select a policy with a related module, and then select managers, domains, and a date range. The report displays a trend chart that shows policy violations for a selected manager and domain. The report also displays the data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Violation Counts

Monthly violations trend by manager

This report shows monthly policy violation trends for a selected manager. You select a policy with a related module, and then select a date range. The report displays a trend chart that shows policy violations for all agents that are examined by the selected manager and domain. The report also displays data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Violation Counts

Policy audit schedule

This report shows the audit schedule for a policy on managers in your database. You select a policy and its associated managers and domains, and the report displays the managers and domains that the policy ran on, the policy start times, the Job IDs, and the modules that run in that policy.

Default path: Public Folders > Symantec ESM > Technical > Administration > Audits

Policy audit schedule (query)

This query retrieves the audit schedules for policies on managers in your database. You select the managers and policies, and the query shows the managers, the policies, the domains that the policies run on, the policy start times, the Job IDs, and the modules that run in each policy.

Default path: Public Folders > Symantec ESM > Technical > Administration > Audits

Policy Runs

This report shows all policy run information and is sorted by job ID. When you select a policy with associated managers, domains, and agents, the report displays the run state, the start time, the finish time, the policy, the domain, and the audit status for each job ID.

Default path: Public Folders > Symantec ESM > Technical > Console Views

Quarterly agent level trend by line of business

This report shows quarterly agent security level trends for a selected manager and domain. You select a policy with a related module on any manager and domain in your enterprise. After you select a date range, the report displays a trend chart that shows the number of agents for that manager and domain that are at each security level (either red, yellow, or green) for the selected policy and its related module. The report displays data as both a chart and a table.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Agent Level

Quarterly agent level trend by manager

This report shows quarterly agent security level trends for a selected manager. You select a policy with a related module on any manager and domain in your enterprise. You then select a date range, and the report displays a trend chart that shows the number of agents in the selected domain at each security level (red, yellow, and green) for the selected policy and its related module. The report also displays the data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Agent Level

Quarterly compliance trend by line of business

This report shows quarterly compliance percentage trends for a selected domain. You select a policy with a related module on any manager and domain in your enterprise. After you select a date range, the report displays a trend chart that shows the aggregate level of compliance for all agents in the domain. The report also displays data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Compliance Percentage

Quarterly compliance trend by manager

This report shows quarterly compliance percentage trends for a selected manager. You can select a policy with a module on any manager and domain in your enterprise. You then select a date range, and the report displays a trend chart that shows the aggregate level of compliance for a selected domain. The report also displays the data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Compliance Percentage

Quarterly violations trend by line of business

This report shows the quarterly policy violation trends for any selected module. You select a policy with a related module, and then select managers, domains, and a date range. The report displays a trend chart that shows policy violations for a selected manager and domain. The report also displays the data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Violation Counts

Quarterly violations trend by manager

This report shows quarterly policy violation trends for a selected manager. You select a policy with a related module, and then select a date range. The report displays a trend chart that shows policy violations for all agents that are examined by the selected manager and domain. The report also displays data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Violation Counts

Suppressed message details

This report shows the details of messages that are suppressed on the agents that you select. The report lets you select the policy, category, module, message severity, manager, domains, and agents, then it shows you the messages that the managers, domains, and agents that you select reported as suppressed during the last policy run.

Default path: Public Folders > Symantec ESM > Technical > Message Information

Suppression configuration

This report displays information about current suppression configurations for Symantec ESM Managers. The report lets you select the policies, modules, platforms, and managers for which you want to view suppression configuration information. You can also limit suppression information according to creation date, expiration date, last used date, and whether the suppression is currently enabled.

Default path: Public Folders > Symantec ESM > Technical > Administration > Suppression Configuration

Suppression configuration (query)

This query shows suppression configuration information for the managers in your database. The query displays information on suppressions for managers, accounts, policies, platforms, modules, creation date, expiration date, date last used, wildcard information, and whether suppressions are currently enabled.

Default path: Public Folders > Symantec ESM > Technical > Administration > Suppression Configuration

Suppression configuration (query)

Use this query as a template to create your own custom queries in Query Studio using the Suppression Configuration query subject in the metadata model.

Default path: Public Folders > Symantec ESM > Technical > Custom Queries

Symantec report template

Use this template as a framework for creating your own reports in Report Studio.

Default path: Public Folders > Symantec ESM > Technical > Report Template

Upcoming scheduled audits (query)

This query lists the audits that are scheduled to run within a time period that you specify. For each Audit, the query shows the manager name, the domain name, the policy name, the job ID, the start time, the run state for the policies, and the user name of the Symantec ESM account that created the policies.

Default path: Public Folders > Symantec ESM > Technical > Administration > Audits

Violations by line of business

This report displays security compliance data for modules on selected domains. The information is grouped according to modules, then by domain. It also shows the number of messages at each security level (red, yellow, and green). The report displays data as both a chart and a table.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Violation Counts

Violations by line of business (query)

This query retrieves security compliance data for modules in selected domains. By default, the results are grouped by domains, and they display the number of messages at each security level (red, yellow and green) for each domain, as well as the total number of messages. The query displays data as both a chart and a table. You can modify the query to meet your needs.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Violation Counts

Violations by manager

This report shows policy violations on selected managers. You select a policy, with its related modules, a domain, and any or all managers. A bar chart shows the distribution of the violations across each manager, the number of violations for each manager, and the severity level of each message. This information is also shown as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Violation Counts

Violations by manager (query)

This query retrieves information about policy violations on selected managers. You select a policy, with its related modules, and any or all managers and domains. The number of violations and severity levels are shown as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Violation Counts

Weekly agent level trend by line of business

This report shows weekly agent security level trends for a selected manager and domain. You select a policy with a related module on any manager and domain in your enterprise. After you select a date range, the report displays a trend chart that shows the number of agents for that manager and domain that are at each security level (either red, yellow, or green) for the selected policy and its related module. The report displays data as both a chart and a table.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Agent Level

Weekly agent level trend by manager

This report shows weekly agent security level trends for a selected manager. You select a policy with a related module on any manager and domain in your enterprise. You then select a date range, and the report displays a trend chart that shows the number of agents in the selected domain at each security level (red, yellow, and green) for the selected policy and its related module. The report also displays the data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Agent Level

Weekly compliance trend by line of business

This report shows weekly compliance percentage trends for a selected domain. You select a policy with a related module on any manager and domain in your enterprise. After you select a date range, the report displays a trend chart that shows the aggregate level of compliance for all agents in the domain. The report also displays data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Compliance Percentage

Weekly compliance trend by manager

This report shows weekly compliance percentage trends for a selected manager. You can select a policy with a module on any manager and domain in your enterprise. You then select a date range, and the report displays a trend chart that shows the aggregate level of compliance for a selected domain. The report also displays the data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Compliance Percentage

Weekly violations trend by line of business

This report shows the weekly policy violation trends for any selected module. You select a policy with a related module, and then select managers, domains, and a date range. The report displays a trend chart that shows policy violations for a selected manager and domain. The report also displays the data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Violation Counts

Weekly violations trend by manager

This report shows weekly policy violation trends for a selected manager. You select a policy with a related module, and then select a date range. The report displays a trend chart that shows policy violations for all agents that are examined by the selected manager and domain. The report also displays data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Violation Counts

Yearly agent level trend by line of business

This report shows yearly agent security level trends for a selected manager and domain. You select a policy with a related module on any manager and domain in your enterprise. After you select a date range, the report displays a trend chart that shows the number of agents for that manager and domain that are at each security level (either red, yellow, or green) for the selected policy and its related module. The report displays data as both a chart and a table.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Agent Level

Yearly agent level trend by manager

This report shows yearly agent security level trends for a selected manager. You select a policy with a related module on any manager and domain in your enterprise. You then select a date range, and the report displays a trend chart that shows the number of agents in the selected domain at each security level (red, yellow, and green) for the selected policy and its related module. The report also displays the data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Agent Level

Yearly compliance trend by line of business

This report shows yearly compliance percentage trends for a selected domain. You select a policy with a related module on any manager and domain in your enterprise. After you select a date range, the report displays a trend chart that shows the aggregate level of compliance for all agents in the domain. The report also displays data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Compliance Percentage

Yearly compliance trend by manager

This report shows yearly compliance percentage trends for a selected manager. You can select a policy with a module on any manager and domain in your enterprise. You then select a date range, and the report displays a trend chart that shows the aggregate level of compliance for a selected domain. The report also displays the data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Compliance Percentage

Yearly violations trend by line of business

This report shows the yearly policy violation trends for any selected module. You select a policy with a related module, and then select managers, domains, and a date range. The report displays a trend chart that shows policy violations for a selected manager and domain. The report also displays the data in table form.

Default path: Public Folders > Symantec ESM > Executive > Policy Compliance > Violation Counts

Yearly violations trend by manager

This report shows yearly policy violation trends for a selected manager. You select a policy with a related module, and then select a date range. The report displays a trend chart that shows policy violations for all agents that are examined by the selected manager and domain. The report also displays data as a table.

Default path: Public Folders > Symantec ESM > Technical > Policy Compliance > Violation Counts.

About the Symantec ESM Reporting metadata model

This appendix includes the following topics:

About the Query Studio metadata model

Large amounts of information in a database are categorized based on metadata, which is the classification of units of content so they can be retrieved and combined in useful and meaningful ways.

The information in the Symantec ESM Reporting metadata model is organized to cover all enterprise domains, in all lines of business. Reports and queries created with the Symantec ESM Reporting metadata model give a consistent view of enterprise data. This creates a common foundation for sharing information, whether with analysts, developers, or managers.

Analysts and programmers use the data model to create reports in an easy-to-understand format. These reports illustrate security issues and trends that decision makers can use to increase the security of the enterprise network and maintain compliance with security policies.

Metadata model divisions

The Symantec ESM Reporting metadata model arranges ESM data into three main areas:

- Administration
- Message Information
- Message Summary

Each area is contained within its own folder. You can use the data items in the folder to build effective queries.

About the Administration folder

The Administration folder contains data items that relate to the administration of your Symantec ESM application, such as Symantec ESM user accounts, message suppressions, audit schedules, Manager-Agent communications configurations, and similar types of data.

About the Message Information folder

The Message Information folder contains data items that relate to the security state of computers in your enterprise, such as policies, message titles, message descriptions, and change events.

These data items are intended to display the details about specific problems at the Agent level. Reports that you generate with these data items are intended for operations personnel, and those responsible for day-to-day computer security maintenance.

About the Message Summaries folder

The Message Summaries folder contains data items that relate to fact items in the metadata model. Combine these facts with data items that are in the Message Information section to quantify your queries. Fact item columns should be placed in the report after the information objects.

These data objects are intended to create reports that display the current overall security state of your enterprise. The facts let you quantify the security state of your computers to use in reports to executives and managers.

Query subject prompts

The Query Studio uses prompts with certain query subjects to help you focus your queries to only the information that you need. When you use information objects from certain query subjects, the Query Studio brings up prompt pages that let you select from the policies, modules, managers, and domains that you want. The following table outlines the prompts that are associated with each query subject

Table B-1 Query subject prompts

Query subject	Associated prompts
Account permissions	manager
Agent summaries	policy, module, manager, domain
Agent trends	policy, module, manager, domain
Audits	policy, manager, domain
Change events	policy, manager, domain
Domain trends	policy, module, manager, domain
Messages	policy, module, manager, domain
Suppressions	policy

Note: If you create queries from scratch, the Query Studio cannot remember what prompt values that you selected. Each change requires you reenter the prompt values. Also, the Query Studio cannot determine which prompts are necessary based on the columns that you add to the query and requests all associated prompts regardless of whether you use a related column. To work around this issue, when you use the query studio, use the queries in the Custom Queries folder in the user interface.

Combinations of data objects

When you create queries, you must use information objects, filters, and facts from within the same query subject. Using data objects from different query subjects may result in errors.

Objects that require another object

Some data objects must combine with other objects to return useful information, for example a query that uses only Asset tag or Description. An effective query will combine one of these objects with an object such as Agent name or Domain.

Data items from one section of the metadata model often do not pertain to other sections. Because each section of the model has its own specific purpose, combining data items from separate sections of the metadata model can result in errors or meaningless reports.

Some examples of data items that have these types of dependencies include the following:

- User permissions
- Agent properties
- Suppression information
- Change events
- Message information
- Agent counts
- Compliance percentages
- Severity counts
- Violation counts
- Parameters

For example, if you create a query including columns of data about the Managers, Policies, and Messages, you cannot add a column about Account Privileges without first removing the columns about Policies and Messages.

This is because Policies and Messages are data items that relate to security, and Account Privileges is a data item that relates to Administration. Mixing unrelated data items in a query can result in meaningless reports, and can generate cross-join errors.

Note: The Symantec ESM Reports metadata model has two data items that may not contain any information. The Asset Tag and Description data items (under Agent in the Administration folder) are not supported in Symantec ESM 6.1, but may be supported in future versions. You can use an SQL tool to add information to these two fields in the database.

Descriptions of data items

Data objects in the Symantec ESM Reporting metadata model are classified as query subjects, information objects, facts, or filters. Table B-2 lists the different types of data items and descriptions of each type.

Table B-2 Different types of data items

Type of data item	Description
Query subjects	Query subjects represent tables in the database. They generally hold information objects.
Information objects	Information objects are the main report items. They represent columns in a report. Managers, Agents, Domains, and Policies are examples of information objects. Information objects often relate to fields in a table in the database.
Facts	A fact is a quantifiable column in a report. Examples of facts include numbers of messages, and numbers of types and severities of messages. Facts should generally be inserted into reports after information objects.
Filters	Filters control and limit the data so you can display the specific information you need. When you add a filter to a report, it refines the displayed information to be more specific.

Structure of data items

The following set of tables describes the data items in the Symantec ESM Reports metadata model. Data items described in these tables include information objects, filters, and facts.
See "Data items" on page 137.

The tables include the name of the data item, a description of the data item, and a container. Containers can be either folders or query subjects. At the top of each table is a path to locate the data items that shows the folders of query subjects that you must expand in the tree to access the data item.

Administration folder structure

The following data items are included in the Administration folder:

Table B-3 Path: Administration/Account permissions/[Data item]

Container	Data item	Description
Account permissions	Manager	A unique character string that identifies a Symantec ESM Manager.
	Account name	A unique character string that identifies the Symantec ESM account.
	Active	True/false value that identifies whether the Symantec ESM account is active.
	Locked out	True/false value that identifies whether the Symantec ESM account is locked out.
	Disabled	True/false value that identifies whether the Symantec ESM account is disabled.

Table B-4 Path: Administration/Account permissions/Domains/[Data item]

Container	Data item	Description
Domains	Domain	A unique character string that identifies the Symantec ESM Domain for a manager.
	View domain	True/false value that identifies whether the user can view all Symantec ESM domains.
	Modify domain	True/false value that identifies whether the user can modify all Symantec ESM domains.
	Run policy on domain	True/false value that identifies whether the user can run a Symantec ESM policy on a specific domain.
	Snapshot updates	True/false value that identifies whether the user can create or update snapshots on a specific domain.

Table B-5 Path: Administration/Account permissions/Policies/[Data item]

Container	Data item	Description
Policies	Policy	A unique character string that identifies a specific Symantec ESM Policy for a manager.
	View policy	True/false value that identifies whether the user can view all Symantec ESM policies.
	Modify policy	True/false value that identifies whether the user can modify all Symantec ESM policies.
	Run policy	True/false value that identifies whether the user can run a Symantec ESM policy on a specific domain.

Table B-6 Path: Administration/Account permissions/Template/[Data item]

Container	Data item	Description
Template	Template name	A unique character string that identifies a template from a specific Symantec ESM Policy.
	Modify template	True/false value that identifies whether the user can modify a specific Symantec ESM template.
	Read template	True/false value that identifies whether the user can run a Symantec ESM policy on a specific domain.

Table B-7 Path: Administration/Account permissions/Advanced/[Data item]

Container	Data item	Description
Advanced	Perform remote installs/upgrades	True/false value that identifies whether the user can perform a remote installation upgrade.
	Register agents with manager	True/false value that identifies whether the user can register Agents.
	Modify own password	True/false value that identifies whether the user can modify his own password.
	Modify ESM options	True/false value that identifies whether the user can modify Manager options.
	Manage user rights	True/false value that identifies whether the user can manage Symantec ESM user rights.

Table B-8 Path: Administration/Account permissions/Codes/[Data item]

Container	Data item	Description
Codes	LOCKED_OUT_KEY	A boolean integer that identifies whether the Symantec ESM account is locked out.
	ACTIVE_KEY	A boolean integer that identifies whether the Symantec ESM account is active.
	POLICY_ID	An hexadecimal string that uniquely identifies the specific policy.
	DOMIAIN_ID	An hexadecimal string that uniquely identifies the specific domain.
	MANAGER_ID	An hexadecimal string that uniquely identifies the specific manager.

Table B-9 Path: Administration/Audit/[Data item]

Container	Data item	Description
Audit	Finish time	The system time of the end of a specific audit.
	Start time	The system time of the start of a specific audit.
	Job ID	A character string that identifies a specific audit.
	Run state	True/false value that identifies the current state of the policy run including complete, running, stopped, reporting errors, and other policy run states.
	Audit status	True/false value that identifies whether the policy run completed without errors.
	Account username	A unique character string that identifies the username of a specific Symantec ESM account.
	Policy	A unique character string that identifies a specific Symantec ESM Policy for a manager.
	Module	A unique character string that identifies a specific Symantec ESM Module.
	Manager	A unique character string that identifies a specific Symantec ESM Manager.
	Domain	A unique character string that identifies the Symantec ESM Domain for a manager.

Table B-10 Path: Administration/Audit/Agent State/[Data item]

Container	Data item	Description
Agent State	Agent	A unique character string that identifies a specific Symantec ESM Agent on a manager.
	Audit date	The system date for a specific audit.
	Full policy run	Yes/no value that identifies whether the policy run was a full policy run.
	Successful audit	Yes/no value that identifies whether the policy run completed successfully.
	Erred module	A unique character string that identifies the name of the module with errors.
	Agent error	Displays the messages associated with agent errors that are returned during policy runs.
	Module error	Displays the messages associated with module errors that are returned during policy runs.

Table B-11 Path: Administration/Audit/Codes/[Data item]

Container	Data item	Description
Codes	AUDIT_ID	A unique character or numeric string that identifies a specific audit.
	AGENT_ID	A character or numeric string that identifies the name of the Symantec ESM Agent host computer.
	MANAGER_ID	The unique character or numeric string that identifies a Symantec ESM Manager
	POLICY_ID	A character or numeric string that identifies the Symantec ESM policy.
	SHORT_NAME	A string of variable length (up to 32 characters) that identifies the short name of an ESM Module.
	RUN_STATE_ID	An integer that identifies the run state of a policy run.
	USER_DEFINED_KEY	Integer that identifies whether the Symantec ESM domain can be defined by the user.
	DOMAIN_ID	A unique character or numeric string that identifies the Symantec ESM domain.
	FULL_POLICY_RUN_KEY	A boolean integer that specifies whether the policy run was a full policy run.
	AUDIT_SUCCESSFUL_KEY	A boolean integer that specifies whether the policy run was successful.
	AGENT_AUDIT _ERR_ID	An character or numeric that specifies the agent error.

Table B-12 Path: Administration/Manager - Domain - Agent/[Data item]

Container	Data item	Description
Manager - Domain - Agent	Manager	A unique character string that identifies a specific Symantec ESM Manager.
	Domain	A unique character string that identifies the Symantec ESM Domain for a manager.
	Agent	A unique character string that identifies a specific Symantec ESM Agent on a manager.
	Policy	A unique character string that identifies a specific Symantec ESM Policy for a manager.
	Domain count	Fact that counts the number of Domains per Manager.
	Agent count	Fact that counts the number of Agents per Manager.

Table B-13 Path: Administration/Manager - Domain - Agent/Agent Properties/[Data item]

Container	Data item	Description
Agent Properties	Port	A unique character string that identifies the port number of a specific Symantec ESM Agent.
	Protocol	A unique character string that identifies that identifies the communication protocol.
	Proxy agent	A unique character string that identifies the name of the proxy agent installed on the Agent.
	ESM version	A unique character string that identifies the version number of Symantec ESM that is installed on the Agent.
	OS	A unique character string that identifies the type of operating system that the Agent has installed.
	Description	A unique character string that describes the Agent. The string can include multi-byte unicode characters for international use. (Unsupported in Symantec ESM 6.1)
	Asset tag	A unique character string that can contain information from a physical security sticker or barcode. (Unsupported in Symantec ESM 6.1)
	SU version	A unique character string that identifies the Security Update version number.
	Live update	True/false value that identifies whether LiveUpdate is active on the Agent.
	Platform	A unique character string that identifies the platform that the Symantec ESM Agent is running on.

Table B-14 Path: Administration/Manager - Domain - Agent/Codes/[Data item]

Container	Data item	Description
Codes	AGENT_ID	A character or numeric string that identifies the name of the Symantec ESM Agent host computer.
	OS_VERSION_ID	The unique character or numeric string that identifies the operating system of the agent.
	DOMAIN_ID	A unique character or numeric string that identifies the Symantec ESM domain.
	MANAGER_ID	The unique character or numeric string that identifies a Symantec ESM Manager
	POLICY_ID	A character or numeric string that identifies the Symantec ESM policy.
	USER_DEFINED_KEY	Integer that identifies whether the Symantec ESM domain can be defined by the user.
	LIVE_UPDATE_KEY	A boolean integer that specifies whether LiveUpdate is enabled on the agent.

Table B-15 Path: Administration/Suppression Configuration/[Data item]

Container	Data item	Description
Suppression Configuration	Suppression title	A unique character string that identifies the title of a specific Symantec ESM suppression configuration.
	Suppressed name	A unique character string that identifies the name of the suppression configuration.
	Suppressed information	A unique character string that identifies what information is being suppressed on a specific agent.
	Suppressed agent	A unique character string that identifies the name of the suppressed agent based on the configuration.
	Account name	A unique character string that identifies the Symantec ESM account that created the suppression.
	Name wildcarded	True/false value that identifies whether suppression is configured to suppress messages of a specific type from all agents regardless of the user, account, or computer name.
	Information wildcarded	True/false value that identifies whether suppression is configured to suppress messages of a specific type from all agents regardless of the message text.
	Agent wildcarded	True/false value that identifies whether suppression is configured to suppress messages of a specific type regardless of the agent from which the message came.
	Enabled	True/false value that identifies whether the suppression is currently enabled.
	Comment	A string of variable length (up to 512 characters) that can include multi-byte unicode characters for international use.
	Creation date	The system time for the creation date of the suppression configuration.
	Last used date	The system date and time for the last time that the suppression configuration was used.

Table B-15 Path: Administration/Suppression Configuration/[Data item]

Container	Data item	Description
Suppression Configuration	Expiration date	The system date and time of the expiration date of the suppression configuration.
	Module	A unique character string that identifies a specific Symantec ESM Module.
	Platform	A unique character string that identifies the platform that the Symantec ESM Agent is running on.
	Manager	A unique character string that identifies a specific Symantec ESM Manager.
	Policy	A unique character string that identifies a specific Symantec ESM Policy for a manager.

Table B-16 Path: Administration/Suppression Configuration/Codes/[Data item]

Container	Data item	Description
Codes	POLICY_ID	A character or numeric string that identifies the Symantec ESM policy.
	MANAGER_ID	The unique character or numeric string that identifies a Symantec ESM Manager
	OS_MODULE_ID	A unique character or numeric string that identifies the operating system module.
	INFO_WILDCARDED_KEY	A boolean integer that specified whether an information wildcard is active in the suppression.
	AGENT_WILDCARDED_KEY	A boolean integer that specified whether an agent wildcard is active in the suppression.
	NAME_WILDCARDED_KEY	A boolean integer that specified whether a name wildcard is active in the suppression.
	ENABLED_KEY	A boolean integer that specifies whether the suppression is enabled.

Table B-17 Path: Administration/License/[Data item]

Container	Data item	Description
License	Manager	Specifies the name of the manager.
	Number of licenses	Shows the total number of agent licenses. This represents the total number of agents that can be registered to a manager.
	Used licenses	Show the number of agent licenses used to register agents to a manager. This represents the number of agents that are currently registered to a manager.
	Remaining licenses	Shows the number of agent licenses remaining. This represents the number of agents that can still be registered to the manager.

Table B-18 Path: Administration/Agent Filters/[Data item]

Container	Data item	Description
Agent Filters	Not assigned to user defined domain	Predefined filter that limits the displayed data to agents that are not assigned to a user-defined domain.
	Agents in user defined domains only	Predefined filter that limits the displayed data to agents that are assigned to a user-defined domain.
	In policy run	Predefined filter that limits the displayed data to agents that are assessed in a policy run.

Table B-19 Path: Administration/Audit Filters/[Data item]

Container	Data item	Description
Audit Filters	Audits not yet finished	Predefined filter that limits the displayed data to audits that have not yet finished according to the audit state data.
	Audits not yet started	Predefined filter that limits the displayed data to audits that have not yet started according to the audit state data.
	Audits finished	Predefined filter that limits the displayed data to audits that have completed according to the audit state data.
	Audits finished in last n days	Filter that limits the displayed data when you specify audits that were finished in a number of days that you specify.
	Audits finished today	Predefined filter that limits the displayed data to audits that have not yet finished within the last day.
	Audits scheduled in next n days	Filter that limits the displayed data when you specify audits that scheduled to start in a number of days that you specify.
	Audits scheduled today	Predefined filter that limits the displayed data to audits that start on the current day.
	Audit state only	Predefined filter that limits the displayed data to only data about audit states.

Table B-19 Path: Administration/Audit Filters/[Data item]

Container	Data item	Description
Audit Filters	Last finished audit errors	Predefined filter that limits the displayed data to audit error information for only the most recently completed audit.
	Next audit for policy	Filter that limits the displayed data to information about the next scheduled audit for a specific policy.
	Scheduled audits only	Predefined filter that limits the displayed data to information about upcoming scheduled audits.
	Audit errors only	Predefined filter that limits the displayed data to information pertaining to policy run errors.
	Agent errors only	Predefined filter that limits the displayed data to information pertaining to errors that are reported by agents.
	User defined domains only	Predefined filter that limits the displayed data to data about user-defined domains and agents in those domains.

Table B-20 Path: Administration/Suppression Filters/[Data item]

Container	Data item	Description
Suppression Filters	Expired within last n days	Filter that limits the displayed data to suppressions that have expired within the number of days that you specify.
	Will expire within n days	Filter that limits the displayed data to suppressions that will expire within the number of days that you specify.
	Created within last n days	Filter that limits the displayed data to suppressions that were created within the number of days that you specify.

Message Information folder structure

The following data items are included in the Message Information folder:

Table B-21 Path: Message Information/Messages/[Data item]

Container	Data item	Description
Messages	Message title	A unique character string that identifies the title of a specific Symantec ESM message.
	Message description	A unique character string that describes the message. The string can include multi-byte unicode characters for international use.
	Message format	A unique character string that describes the replaceable parameter structure of a specific Symantec ESM message.
	Message name	A unique character string that displays the message name.
	Message info	A unique character string that displays the message information.
	Audit date	Specifies the date of the policy run.
	Severity	A character string that identifies the level of severity: Red, Yellow, or Green.
	Suppressed	True/false value that indicates whether a message is suppressed.
	Category	A unique character string that identifies the category of a specific Symantec ESM message.
	Module	A unique character string that identifies a specific Symantec ESM Module.
	Compliant	True/false value that indicates whether a message represents an agent security state that is compliant with the policy.
	Policy	A unique character string that identifies a specific Symantec ESM Policy for a manager.
	Manager	A unique character string that identifies a specific Symantec ESM Manager.
	Domain	A unique character string that identifies the Symantec ESM Domain for a manager.

Table B-21 Path: Message Information/Messages/[Data item]

Container	Data item	Description
Messages	Agent	A unique character string that identifies a specific Symantec ESM Agent on a manager.

Table B-22 Path: Message Information/Messages/Codes/[Data item]

Container	Data item	Description
Codes	SUPPRESSED_KEY	A boolean integer that identifies if the Symantec ESM compliance message can be suppressed by users.
	COMPLIANCE_KEY	A boolean integer that identifies whether a message is from a compliant Symantec ESM Agent.
	USER_DEFINED_KEY	A boolean integer that identifies whether the Symantec ESM Domain can be defined by the user.
	MESSAGE_STATE_ID	A character string (up to 32 letters) that identifies the state of a Symantec ESM message.
	POLICY_ID	A character or numeric string that identifies the Symantec ESM policy.
	MANAGER_ID	The unique character or numeric string that identifies a Symantec ESM Manager
	DOMAIN_ID	A unique character or numeric string that identifies the Symantec ESM domain.
	AGENT_ID	A character or numeric string that identifies the name of the Symantec ESM Agent host computer.
	MESSAGE_ID	An integer that identifies a message.
	SEVERITY_ID	A small integer (0 - 4) that identifies the level of severity.
	MODULE_ID	A character or numeric string that identifies a specific Symantec ESM module.
	CATEGORY_ID	An integer that identifies the category of a specific Symantec ESM message.

Table B-23 Path: Message Information/Message Filters/[Data item]

Container	Data item	Description
Message Filters	Messages occurred today	Predefined filter that limits the displayed data to messages that were reported on the current day.
	Messages occurred in last n days	Filter that limits the displayed data to messages that were reported within the number of days that you specify.
	Messages occurred between these dates	Filter that limits the displayed data to messages that were reported between two dates that you specify.
	Red msgs only	Predefined filter that limits the displayed data to messages that indicate a red security level.
	Yellow msgs only	Predefined filter that limits the displayed data to messages that indicate a yellow security level.
	Green msgs only	Predefined filter that limits the displayed data to messages that indicate a green security level.
	Suppressed msgs only	Predefined filter that limits the displayed data to messages that are suppressed.
	Not suppressed msgs only	Predefined filter that limits the displayed data to messages that are not suppressed.
	Compliant msgs only	Predefined filter that limits the displayed data to only messages that indicate that the agent host computer is in compliance with the policy.
	Not compliant msgs only	Predefined filter that limits the displayed data to only messages that indicate that the agent host computer is not in compliance with the policy.
	Msgs in user defined domains only	Predefined filter that limits the displayed data to messages reported by computers that are in user-defined domains.

Table B-24 Path: Message Information/Message Filters/Category Filters/[Data item]

Container	Data item	Description
Category Filters	All messages	Filter that displays all messages.
	Change notification	Predefined filter that limits the displayed data to messages in the Change Notification category.
	ESM administrative information	Predefined filter that limits the displayed data to messages in the ESM Administrative Information category.
	ESM error	Predefined filter that limits the displayed data to messages in the ESM error category.
	ICE	Predefined filter that limits the displayed data to messages in the ICE category.
	Patch assessment	Predefined filter that limits the displayed data to messages in the Patch assessment category.
	Policy compliance	Predefined filter that limits the displayed data to messages in the Change Notification category.
	System error	Predefined filter that limits the displayed data to messages in the System Error category.
	System information	Predefined filter that limits the displayed data to messages in the System Information category.

Table B-25 Path: Message Information/Change Events/[Data item]

Container	Data item	Description
Change Events	Event title	Displays a title that specifies the type of change event.
	Event description	Displays an in-depth description of the event.
	Event format	Displays replaceable parameter formatting data that the Symantec ESM console uses when formatting events.
	Event name	Displays the change event name.
	Event information	Displays additional information about the change event.
	Audit date	The system date for a specific audit.
	Severity	Displays the security level of the change event, either green, yellow, or red.
	Suppressed	True/false value that identifies whether information about Symantec ESM compliance has been suppressed.
	Category	Displays the category that the change event message falls under.
	Module	A unique character string that identifies a specific Symantec ESM Module.
	Policy	A unique character string that identifies a specific Symantec ESM Policy for a manager.
	Manager	A unique character string that identifies a specific Symantec ESM Manager.
	Domain	A unique character string that identifies the Symantec ESM Domain for a manager.
	Agent	A unique character string that identifies a specific Symantec ESM Agent on a manager.

Table B-26 Path: Message Information/Change Events/Codes/[Data item]

Container	Data item	Description
Codes	SUPPRESSED_KEY	A integer that identifies if the Symantec ESM compliance message can be suppressed by users.
	USER_DEFINED_KEY	Integer that identifies whether the Symantec ESM domain can be defined by the user.
	POLICY_ID	The unique character or numeric string that identifies a Symantec ESM policy.
	MANAGER_ID	The unique character or numeric string that identifies a Symantec ESM Manager
	DOMAIN_ID	A unique character or numeric string that identifies the Symantec ESM domain.
	AGENT_ID	A character or numeric string that identifies the name of the Symantec ESM Agent host computer.
	MESSAGE_ID	An integer that identifies a message.
	CATEGORY_ID	An integer that identifies the category.
	MODULE_ID	A character or numeric string that identifies a specific Symantec ESM module.

Table B-27 Path: Message Information/Change Event Filters/[Data item]

Container	Data item	Description
Change Event Filters	Events occurred today	Predefined filter that limits the displayed data to events that occurred on the current day.
	Events occurred in last n days	Filter that limits the displayed data to events that occurred within the number of days that you specify.
	Events occurred between these dates	Filter that limits the displayed data to events that occurred between two dates that you specify.
	Suppressed events only	Predefined filter that limits the displayed data to suppressed change event messages.
	Events in user defined domains only	Predefined filter that limits the displayed data to change event messages that were generated by agents that are in user-defined domains.

Message Summaries folder structure

The following data items are included in the Message Summaries folder:

Table B-28 Path: Message Summaries/Agent Summaries/[Data item]

Container	Data item	Description
Agent Summaries	Policy	A unique character string that identifies a specific Symantec ESM Policy for a manager.
	Category	A unique character string that identifies the category of a specific Symantec ESM message.
	Module	A unique character string that identifies a specific Symantec ESM Module.
	Manager	A unique character string that identifies a specific Symantec ESM Manager.
	Domain	A unique character string that identifies the Symantec ESM Domain for a manager.
	Agent	A unique character string that identifies a specific Symantec ESM Agent on a manager.
	Level	Specifies the security level, either red, yellow, or green.
	Audit Date	The system date and time for a specific audit.

Table B-29 Path: Message Summaries/Agent Summaries/Agent Counts/[Data item]

Container	Data item	Description
Agent Counts	Rating	Displays the rating of the focus object. A rating is an integer. Red agent messages contribute 10 points to a rating, yellow messages contribute 1 point to a rating, and green messages do not contribute to a rating.
	Red agents	Shows the number of red agents for the focus object.
	Yellow agents	Shows the number of yellow agents for the focus object.
	Green agents	Shows the number of green agents for the focus object.

Table B-30 Path: Message Summaries/Agent Summaries/Compliance Counts/[Data item]

Container	Data item	Description
Compliance Counts	Agent compliance %	Show a number that rates a compliance percentage for agents. This fact only works correctly when agents are specified individually in a previous column of the query.
	Compliance %	Shows a number which rates the compliance percentage for the focus object.
	0-10% counts	Shows the number of agents that have a compliance percentage level that falls between 0 - 10 percent.
	>10-20% counts	Shows the number of agents that have a compliance percentage level that falls between 10 - 20 percent.
	>20-30% counts	Shows the number of agents that have a compliance percentage level that falls between 20 - 30 percent.
	>30-40% counts	Shows the number of agents that have a compliance percentage level that falls between 30 - 40 percent.
	>40-50% counts	Shows the number of agents that have a compliance percentage level that falls between 40 - 50 percent.
	>50-60% counts	Shows the number of agents that have a compliance percentage level that falls between 50 - 60 percent.
	>60-70% counts	Shows the number of agents that have a compliance percentage level that falls between 60 - 70 percent.
	>70-80% counts	Shows the number of agents that have a compliance percentage level that falls between 70 - 80 percent.
	>80-90% counts	Shows the number of agents that have a compliance percentage level that falls between 80 - 90 percent.

Table B-30 Path: Message Summaries/Agent Summaries/Compliance Counts/[Data item]

Container	Data item	Description
Compliance Counts	>90-100% counts	Shows the number of agents that have a compliance percentage level that falls between 90 - 100 percent.

Table B-31 Path: Message Summaries/Agent Summaries/Message Counts/[Data item]

Container	Data item	Description
Message Counts	Red messages	Shows the number of red messages for the focus object.
	Yellow messages	Shows the number of yellow messages for the focus object.
	Green messages	Shows the number of green messages for the focus object.
	Messages	Shows the total number of reported messages.
	Suppressed messages	Shows the number of suppressed messages for the focus object.
	Unique messages	Shows the number of unique messages for the focus object.
	Unique suppressed messages	Shows the number of unique, suppressed messages for the focus object.
	Unique possible messages	Shows the number of unique possible messages for the focus object.
	Violations	Shows the number of messages that indicate that the agent is out of compliance with the policy.

Table B-32 Path: Message Summaries/Agent Summaries/Severity Counts/[Data item]

Container	Data item	Description
Severity Counts	Severity level	Displays the security level, either red, yellow, or green.
	Severity ID	A small integer (0 - 4) that identifies the level of severity.
	Red messages per severity	Displays the number of red messages. Messages with a severity level of four are red messages.
	Yellow messages per severity	Displays the number of yellow messages at each severity level. Yellow messages can have a severity level of one, two, or three.
	Green messages per severity	Displays the number of green messages. Messages with a severity level of zero are green messages.
	Messages per severity	Displays the number of messages at each severity or security level.
	Suppressed messages per severity	Displays the number of suppressed messages at each severity security level.
	Unique messages per severity	Displays the number of unique messages at each severity security level.
	Unique suppressed messages per severity	Displays the number of unique suppressed messages at each severity security level.
	Unique possible messages per severity	Displays the number of unique possible messages at each severity security level. Possible messages may or may not have been reported in a policy run.

Table B-33 Path: Message Summaries/Agent Summaries/Codes/[Data item]

Container	Data item	Description
Codes	POLICY_ID	The unique character or numeric string that identifies the Symantec ESM policy.
	CATEGORY_ID	An integer that identifies the category.
	MODULE_ID	A character or numeric string that identifies a specific Symantec ESM module.
	MANAGER_ID	The unique character or numeric string that identifies a Symantec ESM Manager
	DOMAIN_ID	A unique character or numeric string that identifies the Symantec ESM domain.
	AGENT_ID	A character or numeric string that identifies the name of the Symantec ESM Agent host computer.
	SEVERITY_ID	A small integer (0 - 4) that identifies the level of severity.

Table B-34 Path: Message Summaries/Summary Filters/[Data item]

Container	Data item	Description
Summary Filters	All messages category	Predefined filter that shows all messages.
	Change notification category	Predefined filter that limits the displayed data to only those messages in the Change Notification category.
	ESM administrative information category	Predefined filter that limits the displayed data to only those messages in the ESM Administrative Information category.
	ESM error category	Predefined filter that limits the displayed data to only those messages in the ESM Error category.
	ICE category	Predefined filter that limits the displayed data to only those messages in the ICE category.
	Patch assessment category	Predefined filter that limits the displayed data to only those messages in the Patch Assessment category.
	Policy compliance category	Predefined filter that limits the displayed data to only those messages in the Policy Compliance category.
	System error category	Predefined filter that limits the displayed data to only those messages in the System Error category.
	System information category	Predefined filter that limits the displayed data to only those messages in the System Information category.

Table B-35 Path: Message Summaries/Prompts/Trend_Interval_Prompt/[Data item]

Container	Data item	Description
Trend_ Interval_ Prompt **Note:** These information objects are used only for creating report prompts in Report Studio	Prompt key	Displays an integer that represent a time interval prompt
	Time interval	Displays the prompt values for time intervals in trend reports. Intervals include daily, weekly, monthly, quarterly, and annually.

Table B-36 Path: Message Summaries/Prompts/Category_Module_Prompt/[Data item]

Container	Data item	Description
Category_ Module_ Prompt **Note:** These information objects are used only for creating report prompts in Report Studio.	CATEGORY_ID	An integer that identifies the category.
	MODULE_ID	A numeric string that identifies a specific Symantec ESM module.
	Category	Displays the category names that appear in the prompt.
	Module	Displays the module names that appear in the prompt.
	TREND	A boolean prompt that determines whether the report displays trended data.

Table B-37 Path: Message Summaries/Prompts/Category_Name_Prompt/[Data item]

Container	Data item	Description
Category_ Name_ Prompt **Note:** These information objects are used only for creating report prompts in Report Studio.	CATEGORY_ID	An integer that identifies the category.
	Category	Displays the category names that appear in the prompt.

Table B-38 Path: Message Summaries/Prompts/Policy_Manager_Prompt/[Data item]

Container	Data item	Description
Policy_ Manager_ Prompt **Note:** These information objects are used only for creating report prompts in Report Studio.	Policy	A unique character string that identifies a specific Symantec ESM Policy for a manager.
	Manager	A unique character string that identifies a specific Symantec ESM Manager.
	Domain	A unique character string that identifies the Symantec ESM Domain for a manager.
	POLICY_ID	An integer that identifies the specific policy.
	MANAGER_ID	The unique character or numeric string that identifies a Symantec ESM Manager
	DOMAIN_ID	A unique character or numeric string that identifies the Symantec ESM domain.

Table B-39 Path: Message Summaries/Prompts/Severity Parameter Map Query/[Data item]

Container	Data item	Description
Severity Parameter Map Query **Note:** These information objects are used only for creating report prompts in Report Studio.	SEVERITY_ID	A small integer (0 - 4) that identifies the level of severity.
	SEVERITY	Displays the security level for severities, either red, yellow, or green.

Table B-40 Path: Message Summaries/Prompts/Boolean_Prompt/[Data item]

Container	Data item	Description
Boolean_ Prompt **Note:** These information objects are used only for creating report prompts in Report Studio.	STRING_KEY	An integer (zero or one) that refers to the string value for boolean prompts in reports
	STRING_VALUE	The string value (No or Yes) for boolean prompts in reports.

Table B-41 Path: Message Summaries/Prompts/Module Message/[Data item]

Container	Data item	Description
Boolean_ Prompt **Note:** These information objects are used only for creating report prompts in Report Studio.	Module	A unique character string that identifies a specific Symantec ESM Module.
	Message title	A unique character string that identifies the title of a specific Symantec ESM message.
	MODULE_ID	A character or numeric string that identifies a specific Symantec ESM module.
	CATEGORY_ID	An integer that identifies the category.
	MESSAGE_ID	An integer that identifies a message.
	CATEGORY_TY PE	An integer that identifies a category type. The eight high-level categories have a type of 1 and subcategories such as module categories have a type of 2.

Table B-42 Path: Message Summaries/Prompts/All_Messages/[Data item]

Container	Data item	Description
All_ Messages **Note:** These information objects are used only for creating report prompts in Report Studio.	CATEGORY_ID	An integer that identifies the category.
	Category	Displays the category names that appear in the prompt.

Table B-43 Path: Message Summaries/Prompts/Policy_Compliance/[Data item]

Container	Data item	Description
Policy_ Compliance **Note:** These information objects are used only for creating report prompts in Report Studio.	CATEGORY_ID	An integer that identifies the category.
	Category	Displays the category names that appear in the prompt.

Table B-44 Path: Message Summaries/Prompts/Filters/[Data item]

Container	Data item	Description
Filters **Note:** These filters are used only for creating report prompts in Report Studio.	Select a policy	Filter used in prompts that lets the user select from among the displayed policies.
	Select a category	Filter used in prompts that lets the user select from among the displayed categories.
	Select a module	Filter used in prompts that lets the user select from among the displayed modules.
	Select a manager	Filter used in prompts that lets the user select from among the displayed managers.
	Select a domain	Filter used in prompts that lets the user select from among the displayed domains.
	Select a agent	Filter used in prompts that lets the user select from among the displayed agents.

Table B-45 Path: Message Summaries/Trends/Agent Trends/[Data item]

Container	Data item	Description
Agent Trends	Policy	A unique character string that identifies a specific Symantec ESM Policy for a manager.
	Category	A unique character string that identifies the category of a specific Symantec ESM message.
	Module	A unique character string that identifies a specific Symantec ESM Module.
	Manager	A unique character string that identifies a specific Symantec ESM Manager.
	Domain	A unique character string that identifies the Symantec ESM Domain for a manager.
	Agent	A unique character string that identifies a specific Symantec ESM Agent on a manager.
	Level	Displays the security level, either red, yellow, or green, of the focus object.
	Audit Date	The system date for a specific audit.
	Audit date/time	The system date and time for a specific audit.

Table B-46 Path: Message Summaries/Trends/Agent Trends/Agent Counts/[Data item]

Container	Data item	Description
Agent Counts	Level	Displays the security level, either red, yellow, or green, of the focus object.
	Rating	Displays the rating of the focus object. A rating is a number between zero and four. Red objects have a rating of four, yellow objects have a rating of between one and three, and green objects have a rating of zero.
	Red agents	Shows the number of red agents for the focus object.
	Yellow agents	Shows the number of yellow agents for the focus object.
	Green agents	Shows the number of green agents for the focus object.
	Audited agents	Shows the total number of audited agents for the focus object.
	Total agents	Shows the total number of agents associated with the ficus object.

Table B-47 Path: Message Summaries/Trends/Agent Trends/Compliance Counts/[Data item]

Container	Data item	Description
Compliance Counts	Agent compliance %	Show a number that rates a compliance percentage for agents. This fact only works correctly when agents are specified individually in a previous column of the query.
	Compliance %	Shows a number which rates the compliance percentage for the focus object.
	0-10% counts	Shows the number of agents that have a compliance percentage level that falls between 0 - 10 percent.
	>10-20% counts	Shows the number of agents that have a compliance percentage level that falls between 10 - 20 percent.
	>20-30% counts	Shows the number of agents that have a compliance percentage level that falls between 20 - 30 percent.
	>30-40% counts	Shows the number of agents that have a compliance percentage level that falls between 30 - 40 percent.
	>40-50% counts	Shows the number of agents that have a compliance percentage level that falls between 40 - 50 percent.
	>50-60% counts	Shows the number of agents that have a compliance percentage level that falls between 50 - 60 percent.
	>60-70% counts	Shows the number of agents that have a compliance percentage level that falls between 60 - 70 percent.
	>70-80% counts	Shows the number of agents that have a compliance percentage level that falls between 70 - 80 percent.
	>80-90% counts	Shows the number of agents that have a compliance percentage level that falls between 80 - 90 percent.

Table B-47 Path: Message Summaries/Trends/Agent Trends/Compliance Counts/[Data item]

Container	Data item	Description
Compliance Counts	>90-100% counts	Shows the number of agents that have a compliance percentage level that falls between 90 - 100 percent.

Table B-48 Path: Message Summaries/Trends/Agent Trends/Date Trends/[Data item]

Container	Data item	Description
Date Trends	Day of week	A small integer that corresponds to the day of the week. 1 = Sunday, 2 = Monday, etc.
	Day of month	A small integer that corresponds to the day of the month.
	Week	A small integer that corresponds to the week of the year. from 1 to 52.
	Month	A small integer that corresponds to the month of the year. 1 = January, 2 = February, etc.
	Quarter	A small integer that identifies the quarter of the year. 1 = First Quarter, 2 = Second Quarter, 3 = Third Quarter, 4 = Fourth Quarter
	Year	A small integer that corresponds to the current year.
	First audit date per week	Shows the date of the first audit that occurs each week.
	Daily audit date	The system time for the date of the next scheduled daily audit.
	Weekly audit date	The system time for the date of the next scheduled weekly audit.
	Monthly audit date	The system time for the date of the next scheduled monthly audit.
	Quarterly audit date	The system time for the date of the next scheduled quarterly audit.
	Yearly audit date	The system time for the date of the next scheduled yearly audit.

Table B-49 Path: Message Summaries/Trends/Agent Trends/Message Counts/[Data item]

Container	Data item	Description
Message Counts	Red messages	Shows the number of red messages for the focus object.
	Yellow messages	Shows the number of yellow messages for the focus object.
	Green messages	Shows the number of green messages for the focus object.
	Messages	Shows the total number of reported messages.
	Suppressed messages	Shows the number of suppressed messages for the focus object.
	Unique messages	Shows the number of unique messages for the focus object.
	Unique suppressed messages	Shows the number of unique, suppressed messages for the focus object.
	Unique possible messages	Shows the number of unique possible messages for the focus object.
	Violations	Shows the number of messages that indicate that the agent is out of compliance with the policy.

Table B-50 Path: Message Summaries/Trends/Agent Trends/Severity Counts/[Data item]

Container	Data item	Description
Severity Counts	Severity level	Displays the security level, either red, yellow, or green.
	Severity ID	A small integer (0 - 4) that identifies the level of severity.
	Red messages per severity	Displays the number of red messages. Messages with a severity level of four are red messages.
	Yellow messages per severity	Displays the number of yellow messages at each severity level. Yellow messages can have a severity level of one, two, or three.
	Green messages per severity	Displays the number of green messages. Messages with a severity level of zero are green messages.
	Messages per severity	Displays the number of messages at each severity or security level.
	Suppressed messages per severity	Displays the number of suppressed messages at each severity or security level.
	Unique messages per severity	Displays the number of unique messages at each severity or security level.
	Unique suppressed messages per severity	Displays the number of unique suppressed messages at each severity or security level.
	Unique possible messages per severity	Displays the number of unique possible messages at each severity or security level. Possible messages may or may not have been reported in a policy run.

Table B-51 Path: Message Summaries/Trends/Agent Trends/Codes/[Data item]

Container	Data item	Description
Codes	POLICY_ID	The unique character or numeric string that identifies the Symantec ESM policy.
	CATEGORY_ID	An integer that identifies the category.
	MODULE_ID	A character or numeric string that identifies a specific Symantec ESM module.
	MANAGER_ID	The unique character or numeric string that identifies a Symantec ESM Manager
	DOMAIN_ID	A unique character or numeric string that identifies the Symantec ESM domain.
	AGENT_ID	A character or numeric string that identifies the name of the Symantec ESM Agent host computer.
	SEVERITY_ID	A small integer (0 - 4) that identifies the level of severity.

Table B-52 Path: Message Summaries/Trends/Domain Trends/[Data item]

Container	Data item	Description
Agent Trends	Policy	A unique character string that identifies a specific Symantec ESM Policy for a manager.
	Category	A unique character string that identifies the category of a specific Symantec ESM message.
	Module	A unique character string that identifies a specific Symantec ESM Module.
	Manager	A unique character string that identifies a specific Symantec ESM Manager.
	Domain	A unique character string that identifies the Symantec ESM Domain for a manager.
	Agent	A unique character string that identifies a specific Symantec ESM Agent on a manager.
	Level	Displays the security level, either red, yellow, or green, of the focus object.
	Audit Date	The system date for a specific audit.
	Audit date/time	The system date and time for a specific audit.

Table B-53 Path: Message Summaries/Trends/Domain Trends/Agent Counts/[Data item]

Container	Data item	Description
Agent Counts	Level	Displays the security level, either red, yellow, or green, of the focus object.
	Rating	Displays the rating of the focus object. A rating is a number between zero and four. Red objects have a rating of four, yellow objects have a rating of between one and three, and green objects have a rating of zero.
	Red agents	Shows the number of red agents for the focus object.
	Yellow agents	Shows the number of yellow agents for the focus object.
	Green agents	Shows the number of green agents for the focus object.
	Audited agents	Shows the total number of audited agents for the focus object.
	Total agents	Shows the total number of agents associated with the focus object.

Table B-54 Path: Message Summaries/Trends/Domain Trends/Compliance Counts/[Data item]

Container	Data item	Description
Compliance Counts	Agent compliance %	Show a number that rates a compliance percentage for agents. This fact only works correctly when agents are specified individually in a previous column of the query.
	Compliance %	Shows a number which rates the compliance percentage for the focus object.
	0-10% counts	Shows the number of agents that have a compliance percentage level that falls between 0 - 10 percent.
	>10-20% counts	Shows the number of agents that have a compliance percentage level that falls between 10 - 20 percent.
	>20-30% counts	Shows the number of agents that have a compliance percentage level that falls between 20 - 30 percent.
	>30-40% counts	Shows the number of agents that have a compliance percentage level that falls between 30 - 40 percent.
	>40-50% counts	Shows the number of agents that have a compliance percentage level that falls between 40 - 50 percent.
	>50-60% counts	Shows the number of agents that have a compliance percentage level that falls between 50 - 60 percent.
	>60-70% counts	Shows the number of agents that have a compliance percentage level that falls between 60 - 70 percent.
	>70-80% counts	Shows the number of agents that have a compliance percentage level that falls between 70 - 80 percent.
	>80-90% counts	Shows the number of agents that have a compliance percentage level that falls between 80 - 90 percent.

Table B-54 Path: Message Summaries/Trends/Domain Trends/Compliance Counts/[Data item]

Container	Data item	Description
Compliance Counts	>90-100% counts	Shows the number of agents that have a compliance percentage level that falls between 90 - 100 percent.

Table B-55 Path: Message Summaries/Trends/Domain Trends/Date Trends/[Data item]

Container	Data item	Description
Date Trends	Day of week	A small integer that corresponds to the day of the week. 1 = Sunday, 2 = Monday, etc.
	Day of month	A small integer that corresponds to the day of the month.
	Week	A small integer that corresponds to the week of the year. from 1 to 52.
	Month	A small integer that corresponds to the month of the year. 1 = January, 2 = February, etc.
	Quarter	A small integer that identifies the quarter of the year. 1 = First Quarter, 2 = Second Quarter, 3 = Third Quarter, 4 = Fourth Quarter
	Year	A small integer that corresponds to the current year.
	First audit date per week	Shows the date of the first audit that occurs each week.
	Daily audit date	The system time for the date of the next scheduled daily audit.
	Weekly audit date	The system time for the date of the next scheduled weekly audit.
	Monthly audit date	The system time for the date of the next scheduled monthly audit.
	Quarterly audit date	The system time for the date of the next scheduled quarterly audit.
	Yearly audit date	The system time for the date of the next scheduled yearly audit.

Table B-56 Path: Message Summaries/Trends/Domain Trends/Message Counts/[Data item]

Container	Data item	Description
Message Counts	Red messages	The number of red messages for the focus object.
	Yellow messages	The number of yellow messages for the focus object.
	Green messages	The number of green messages for the focus object.
	Messages	Shows the total number of reported messages.
	Suppressed messages	Shows the number of suppressed messages for the focus object.
	Unique messages	Shows the number of unique messages for the focus object.
	Unique suppressed messages	Shows the number of unique, suppressed messages for the focus object.
	Unique possible messages	Shows the number of unique possible messages for the focus object.
	Violations	Shows the number of messages that indicate that the agent is out of compliance with the policy.

Table B-57 Path: Message Summaries/Trends/Domain Trends/Severity Counts/[Data item]

Container	Data item	Description
Severity Counts	Severity level	Displays the security level, either red, yellow, or green.
	Severity ID	A small integer (0 - 4) that identifies the level of severity.
	Red messages per severity	Displays the number of red messages. Messages with a severity level of four are red messages.
	Yellow messages per severity	Displays the number of yellow messages at each severity level. Yellow messages can have a severity level of one, two, or three.
	Green messages per severity	Displays the number of green messages. Messages with a severity level of zero are green messages.
	Messages per severity	Displays the number of messages at each severity or security level.
	Suppressed messages per severity	Displays the number of suppressed messages at each severity or security level.
	Unique messages per severity	Displays the number of unique messages at each severity or security level.
	Unique suppressed messages per severity	Displays the number of unique suppressed messages at each severity or security level.
	Unique possible messages per severity	Displays the number of unique possible messages at each severity or security level. Possible messages may or may not have been reported in a policy run.

Table B-58 Path: Message Summaries/Trends/Domain Trends/Codes/[Data item]

Container	Data item	Description
Codes	POLICY_ID	The unique character or numeric string that identifies the Symantec ESM policy.
	CATEGORY_ID	An integer that identifies the category.
	MODULE_ID	A character or numeric string that identifies a specific Symantec ESM module.
	MANAGER_ID	The unique character or numeric string that identifies a Symantec ESM Manager
	DOMAIN_ID	A unique character or numeric string that identifies the Symantec ESM domain.
	AGENT_ID	A character or numeric string that identifies the name of the Symantec ESM Agent host computer.
	SEVERITY_ID	A small integer (0 - 4) that identifies the level of severity.

Table B-59 Path: Message Summaries/Trends/Category Filters/[Data item]

Container	Data item	Description
Category Filters	All messages	Filter that displays all messages.
	Change notification	Predefined filter that limits the displayed data to messages in the Change Notification category.
	ESM administrative information	Predefined filter that limits the displayed data to messages in the ESM Administrative Information category.
	ESM error	Predefined filter that limits the displayed data to messages in the ESM error category.
	ICE	Predefined filter that limits the displayed data to messages in the ICE category.
	Patch assessment	Predefined filter that limits the displayed data to messages in the Patch assessment category.
	Policy compliance	Predefined filter that limits the displayed data to messages in the Change Notification category.
	System error	Predefined filter that limits the displayed data to messages in the System Error category.
	System information	Predefined filter that limits the displayed data to messages in the System Information category.

Table B-60 Path: Message Summaries/Trends/Trend Filters/[Data item]

Container	Data item	Description
Trend Filters	Agent Latest Audit	Predefined filter that limits the displayed data to data that was reported from the latest audit for selected agents.
	Agent daily audit	Predefined filter that limits the displayed data to data that was reported from audits for selected agents on a specific date or dates.
	Agent weekly audit	Predefined filter that limits the displayed data to data that was reported from audits for selected agents on a specific week or weeks.
	Agent monthly audit	Predefined filter that limits the displayed data to data that was reported from audits for selected agents on a specific month or months.
	Agent quarterly audit	Predefined filter that limits the displayed data to data that was reported from the audit for selected agents on a specific quarter or quarters.
	Agent yearly audit	Predefined filter that limits the displayed data to data that was reported from the audit for selected agents on a specific year or years.
	Select an agent audit date range	Predefined filter that lets the user choose a date range for agent trend queries or reports.
	Domain Latest Audit	Predefined filter that limits the displayed data to data that was reported from the latest audit for agents in specified domains.
	Domain daily audit	Predefined filter that limits the displayed data to data that was reported from audits for agents in specified domains on a specific date or dates.
	Agent weekly audit	Predefined filter that limits the displayed data to data that was reported from audits for agents in specified domains on a specific week or weeks.
	Agent monthly audit	Predefined filter that limits the displayed data to data that was reported from audits for agents in specified domains on a specific month or months.

Table B-60 Path: Message Summaries/Trends/Trend Filters/[Data item]

Container	Data item	Description
Trend Filters	Agent quarterly audit	Predefined filter that limits the displayed data to data that was reported from audits for agents in specified domains on a specific quarter or quarters.
	Agent yearly audit	Predefined filter that limits the displayed data to data that was reported from audits for agents in specified domains on a specific year or years.
	Select a domain audit date range	Predefined filter that lets the user choose a date range for domain trend queries or reports.
	Trended modules	Predefined filter that limits the displayed data to data on modules that have trending enabled.

Appendix C

About the Symantec ESM Reporting database schema

This appendix includes the following topics:

- About the database schema
- Tables in the database schema

About the database schema

This schema is the underlying structure of fields for the Symantec Reporting Database.

To ensure compatibility among the different databases that you can use with the database link, the Symantec ESM Reporting Database uses data types that are common to many types of information modeling tools. Table C-1 shows what types of information can reside in each data type.

Table C-1 Data types and their contents

Data type	Contents
CHAR(X)	Holds a unique character string in a fixed-size field, where X is the number of characters.
NVARCHAR(X)	Holds a string of variable length (up to X characters) that can include multi-byte unicode characters for international use.
TINYINT	Boolean-like number field that identifies whether a condition is true or false. When used to hold a boolean, a value of zero equates to false, and a value greater than zero equates to true.

Table C-1 Data types and their contents

Data type	Contents
SMALLINT	Boolean that identifies whether a condition is true or false.
VARCHAR(X)	Holds a unique character string with a maximum size of X.
INTEGER	Holds a number with the specific value of an object
TIMESTAMP DATETIME DATE	Contains the system time of a specific event.

Tables in the database schema

Each table below (Table C-2 through Table C-52) corresponds to a table in the database, and each row corresponds to a field in that table. The tables in this appendix include field names, data types, descriptions of fields, and indicate whether the field is a primary key, a foreign key, or both.

Table C-2 Account table

Field name	Description	Key type
Account_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM account.	Primary key
User_Name	NVARCHAR(18) - Holds the user name.	
Active	TINYINT - Boolean that identifies whether the Symantec ESM account is active.	
Locked_out	TINYINT - Boolean that identifies whether the Symantec ESM account is locked out.	
Deleted	TINYINT - Boolean that identifies whether the Symantec ESM account is deleted.	
Register_only	TINYINT - Boolean that indicates whether the Symantec ESM account is a register-only account.	
Manager_ID	CHAR(32) - Holds the unique character string that identifies a Symantec ESM Manager.	Foreign key

Table C-3 Account_Permission table

Field name	Description	Key type
Crt_all_policies	SMALLINT - Boolean that identifies whether the user can create all policies.	
Exec_all_policies	SMALLINT - Boolean that identifies whether the user can execute all policies.	
Read_all_policies	SMALLINT - Boolean that identifies whether the user can read all policies.	
Write_all_policies	SMALLINT - Boolean that identifies whether the user can write all policies.	
Crt_all_domains	SMALLINT - Boolean that identifies whether the user can create all domains.	
Exec_all_domains	SMALLINT - Boolean that identifies whether the user can execute all domains.	
Read_all_domains	SMALLINT - Boolean that identifies whether the user can read from all domains.	
Snp_up_all_domains	SMALLINT - Boolean that identifies whether the user can perform snapshot updates within a domain.	
Write_all_domains	SMALLINT - Boolean that identifies whether the user can write to all domains.	
Crt_all_templates	SMALLINT - Boolean that identifies whether the user can create all templates.	
Read_all_templates	SMALLINT - Boolean that identifies whether the user can read all templates.	
Wrt_all_templates	SMALLINT - Boolean that identifies whether the user can write all templates.	
Manage_accounts	SMALLINT - Boolean that identifies whether the user can manage all accounts.	
Mod_mgr_options	SMALLINT - Boolean that identifies whether the user can modify Manager options.	
Mod_own_password	SMALLINT - Boolean that identifies whether the user can modify his own password.	
Register_agents	SMALLINT - Boolean that identifies whether the user can register Agents.	

Table C-3 Account_Permission table

Field name	Description	Key type
Remote_inst_upgrd	SMALLINT - Boolean that identifies whether the user can perform a remote installation upgrade.	
Account_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM account.	Primary key/ Foreign key

Table C-4 Acct_Domain_Perm table

Field name	Description	Key type
Execute_domain	SMALLINT - Boolean that identifies whether the user has execute permissions for a domain.	
Read_domain	SMALLINT - Boolean that identifies whether the user can read a specific domain.	
Snpshot_upd_domain	SMALLINT - Boolean that identifies whether the user can perform snapshot updates for a domain in the Symantec ESM console.	
Write_domain	SMALLINT - Boolean that identifies whether the user can write to a specific domain.	
Account_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM account.	Primary key/ Foreign key
Domain_ID	CHAR(32) - Holds a unique character string that identifies the Symantec ESM domain.	Primary key/ Foreign key

Table C-5 Acct_Policy_Perm table

Field name	Description	Key type
Execute_Policy	SMALLINT - Boolean that identifies whether the user can execute a policy.	
Read_Policy	SMALLINT - Boolean that identifies whether the user can read a policy.	
Write_Policy	SMALLINT - Boolean that identifies whether the user can write to a policy.	

Table C-5 Acct_Policy_Perm table

Field name	Description	Key type
Account_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM account.	Primary key/ Foreign key
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	Primary key/ Foreign key

Table C-6 Acct_Template_Perm table

Field name	Description	Key type
Account_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM account.	Primary key/ Foreign key
Template_name	VARCHAR(64) - Holds the unique character string that identifies the template name.	Primary key
Read_template	SMALLINT - Boolean that identifies whether the user can read the template.	
Write_template	SMALLINT - Boolean that identifies whether the user can write to the template.	

Table C-7 Agent table

Field name	Description	Key type
Agent_ID	CHAR(32) - Holds a character string that identifies the name of the Symantec ESM Agent host computer.	Primary key/ Foreign key
Port	INTEGER - Holds the value that identifies the port number of the Agent.	
Protocol	VARCHAR(16) - Holds a string of variable length (up to 16 characters) that identifies the communication protocol.	
Proxy_agent	VARCHAR(128) - Holds a string that identifies the name of the proxy agent for audited computers that have operating systems that require proxy agents.	

Table C-7 Agent table

Field name	Description	Key type
LiveUpdate	TINYINY - Boolean that identifies whether LiveUpdate is enabled on the Agent.	
Version	VARCHAR(64) - Holds the version number of Symantec ESM that is installed on the Agent.	
OS_info	VARCHAR(128) - Holds a string that identifies the type of operating system that the Agent has installed	
SU_Version	CHAR(16) - Holds a character string that identifies the Security Update version number.	
Agent_name	VARCHAR(128) - Holds a string of variable length (up to 128 characters) that identifies the name of the Agent that is installed	
Description	NVARCHAR (2000) - Holds a string of variable length (up to 2000 characters) that describes the agent. The string can include multi-byte unicode characters for international use. (Unsupported in Symantec ESM 6.1)	
Asset_tag	VARCHAR(64) - Holds a string of variable length (up to 64 characters) that can contain information from a physical security sticker or barcode. (Unsupported in Symantec ESM 6.1)	
OS_version_ID	CHAR(32) - Holds a character string that identifies the operating system version number.	Foreign key
Manager_ID	CHAR(32) - Holds the unique character string that identifies a Symantec ESM Manager.	Foreign key

Table C-8 Agent_Audit_Error table

Field name	Description	Key type
Agent_audit_err_ID	CHAR(32) - Holds a unique character string that identifies an Agent audit error.	Primary key
Agent_ID	CHAR(32) - Holds a character string that identifies the name of the Symantec ESM Agent host computer.	Foreign key

Table C-8 Agent_Audit_Error table

Field name	Description	Key type
Audit_ID	CHAR(32) - Holds a unique character string that identifies a specific audit.	Foreign key

Table C-9 Agent_Err_Str_Map table

Field name	Description	Key type
String_value	NVARCHAR (2000) - Holds a string that can include multi-byte unicode characters for international use.	
Agent_audit_err_ID	CHAR(32) - Holds a unique character string that identifies the Agent audit error.	Primary key/ Foreign key
Locale_ID	CHAR(32) - Holds a string of fixed length (32 characters) that identifies which language Symantec ESM is using.	Primary key/ Foreign key

Table C-10 Agent_ESM_Domain table

Field name	Description	Key type
Domain_ID	CHAR(32) - Holds a unique character string that identifies the Symantec ESM domain.	Primary key/ Foreign key
Agent_ID	CHAR(32) - Holds a character string that identifies the name of the Symantec ESM Agent host computer.	Primary key/ Foreign key

Table C-11 Agent_Group table

Field name	Description	Key type
Group_ID	CHAR(32) - Holds a unique character string that identifies the agent, domain, or manager group.	Primary key

Table C-12 Agent_Stat_Str_Map table

Field name	Description	Key type
Audit_ID	CHAR(32) - Holds a unique character string that identifies a specific audit.	Primary key
Locale_ID	CHAR(32) - Holds a string of fixed length (32 characters) that identifies which language Symantec ESM is using.	
String_value	NVARCHAR (2000) - Holds a string that can include multi-byte unicode characters for international use.	

Table C-13 Account_mapping table

Field name	Description	Key type
User_Name	NVARCHAR(18) - Holds the Symantec Enterprise Reporting user name.	Primary key
Account_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM account.	Primary key/ Foreign key

Table C-14 Audit_stat_str_map table

Field name	Description	Key type
Audit_ID	CHAR(32) - Holds a unique character string that identifies a specific audit.	Primary key/ Foreign key
Locale_ID	CHAR(32) - Holds a string of fixed length (32 characters) that identifies which language Symantec ESM is using.	Primary key/ Foreign key
String_value	NVARCHAR (2000) - Holds a string that can include multi-byte unicode characters for international use.	

Table C-15 Audit_State table

Field name	Description	Key type
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM Policy.	Primary key/ Foreign key
Audit_date	DATETIME - Holds the date and time of the latest audit for a policy or agent.	
Audit_successful	SMALLINT - Boolean that identifies whether the policy completed without errors.	
Full_policy_run	SMALLINT - Boolean that identifies whether the policy run was a full policy run.	
Audit_ID	CHAR(32) - Holds a unique character string that identifies a specific audit.	Foreign key
Agent_ID	CHAR(32) - Holds a character string that identifies the name of the Symantec ESM Agent host computer.	Primary key/ Foreign key

Table C-16 Category table

Field name	Description	Key type
Category_ID	INTEGER - Holds an integer that identifies the category. Link this field to the String_Code field in the Content_String_Map table to identify the categories.	Primary key
Parent_Category_ID	INTEGER - Holds an integer that identifies a parent category.	Foreign key
Category_Type	INTEGER - Holds an integer that identifies a category type. The eight high-level categories have a type of 1 and subcategories such as module categories have a type of 2.	
Category_Name_Code	VARCHAR(20) - Holds a string that identifies the category name code.	
Trend	TINYINT - Boolean that identifies whether the policy completed without errors.	
Short name	VARCHAR(32) - Holds the short name for Symantec ESM modules	Foreign key

Table C-17 Category_Message table

Field name	Description	Key type
Category_ID	INTEGER - Holds an integer that identifies the category. Link this field to the String_Code field in the Content_String_Map table to identify the categories.	Primary key/ Foreign key
Message_ID	INTEGER - Holds an integer that identifies a message.	Primary key/ Foreign key

Table C-18 Cat_trend_daily table

Field name	Description	Key type
Group_ID	CHAR(32) - Holds a unique character string that identifies the group.	
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	
Category_ID	INTEGER - Holds an integer that identifies the category. Link this field to the String_Code field in the Content_String_Map table to identify the categories.	
Audit_datetime	DATETIME - Holds the date and time of the related audit.	

Table C-19 Category_Trend table

Field name	Description	Key type
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	Primary key/ Foreign key
Audit_date	DATE - Holds the audit date.	
Audit_datetime	DATETIME - Holds the date and time of the related audit.	Primary key

Table C-19 Category_Trend table

Field name	Description	Key type
Category_ID	INTEGER - Holds an integer that identifies the category. Link this field to the String_Code field in the Content_String_Map table to identify the categories.	Primary key/ Foreign key
Group_ID	CHAR(32) - Holds a unique character string that identifies the group.	Primary key/ Foreign key
Severity_ID	SMALLINT - Holds a small integer that identifies the level of severity.	Primary key/ Foreign key
Messages	INTEGER - Holds an integer that counts the number of messages.	
Suppr_messages	INTEGER - Holds an integer that counts the number of suppressed messages.	
Unique_messages	INTEGER - Holds an integer that counts the number of unique messages.	
Unique_suppr_msgs	INTEGER - Holds an integer that counts the number of unique suppressed messages.	
Unique_PSBL_msgs	INTEGER - Holds an integer that counts the number of unique possible messages for a specific agent or policy.	
Grouped_agents	INTEGER - Holds an integer that counts the possible agents in a domain.	
Run_agents	INTEGER - Holds an integer that counts the agents that were run during an audit.	

Table C-20 Chg_Message_Event table

Field name	Description	Key type
Chg_msg_event_ID	CHAR(32) - Holds a unique character string that identifies change message event.	Primary key
Audit_datetime	DATETIME - Holds the date and time of the related audit.	
Suppressed	TINYINT - Boolean that identifies whether the related message is suppressed.	

Table C-20 Chg_Message_Event table

Field name	Description	Key type
Message_ID	INTEGER - Holds an integer that identifies a message.	Foreign key
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	Foreign key
Agent_ID	CHAR(32) - Holds a character string that identifies the name of the Symantec ESM Agent host computer.	Foreign key

Table C-21 Chg_Msg_String_Map table

Field name	Description	Key type
Chg_msg_event_ID	CHAR(32) - Holds a unique character string that identifies the change message event.	Primary key/ Foreign key
Locale_ID	CHAR(32) - Holds a string of fixed length (32 characters) that identifies which language Symantec ESM is using.	Primary key/ Foreign key
String_type	CHAR(4) - Indicates whether the string is a name of info string.	Primary key
String_value	NVARCHAR (2000) - Holds a string that can include multi-byte unicode characters for international use.	

Table C-22 Content_String_Map table

Field name	Description	Key type
String_value	NVARCHAR (2000) - Holds a string that can include multi-byte unicode characters for international use.	
String_code	CHAR(32) - Uniquely identifies a specific string.	Primary key
Locale_ID	CHAR(32) - Holds a string of fixed length (32 characters) that identifies which language Symantec ESM is using.	Primary key/ Foreign key

Table C-23 Date_Dimension table

Field name	Description	Key type
Date_Key	Contains the system time for the date of a specific event.	Primary key
Quarter	SMALLINT - Holds an integer that identifies the quarter of the year. 1 = First Quarter, 2 = Second Quarter, 3 = Third Quarter, 4 = Fourth Quarter	
Day_of_month	SMALLINT - Holds an integer that corresponds to the day of the month.	
Week_of_year	SMALLINT - Holds an integer that corresponds to the week of the year. 1 = The first week of the year, 22 = The 22nd week of the year, and so fourth.	
Month_of_year	SMALLINT - Holds an integer that corresponds to the month of the year. 1 = January, 2 = February, and so forth.	
Year_value	SMALLINT - Holds an integer that corresponds to the current year.	
Weekday	SMALLINT - Holds an integer that corresponds to the day of the week. 1 = Sunday, 2 = Monday, etc.	

Table C-24 ESM_Audit table

Field name	Description	Key type
Audit_ID	CHAR(32) - Holds a unique character string that identifies a specific audit.	Primary key
Start_time	TIMESTAMP - Contains the system time of the start of a specific audit.	
Finish_time	TIMESTAMP - Contains the system time of the end of a specific audit.	
Job_ID	VARCHAR(20) - Holds a string that identifies the job code.	
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	Foreign key

Table C-24 ESM_Audit table

Field name	Description	Key type
Account_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM account.	Foreign key
Domain_ID	CHAR(32) - Holds a unique character string that identifies the Symantec ESM domain.	Foreign key
Run_state	SMALLINT - Integer that identifies whether the the recorded state of a policy run at the last poll of the manager.	Foreign key

Table C-25 ESM_Audit_Agent table

Field name	Description	Key type
Audit_ID	CHAR(32) - Holds a unique character string that identifies a specific audit.	Primary key/ Foreign key
Agent_ID	CHAR(32) - Holds a character string that identifies the name of the Symantec ESM Agent host computer.	Primary key/ Foreign key

Table C-26 ESM_Audit_ESM_Module table

Field name	Description	Key type
Audit_ID	CHAR(32) - Holds a unique character string that identifies a specific audit.	Primary key/ Foreign key
Short_name	VARCHAR(32) - Holds a string of variable length (up to 32 characters) that identifies the short name of an ESM Module.	Primary key/ Foreign key

Table C-27 ESM_Check table

Field name	Description	Key type
Letter	CHAR(1) - Uniquely identifies checks for each module.	Primary key

Table C-27 ESM_Check table

Field name	Description	Key type
OS_module_ID	CHAR(32) - Identifies the module	Primary key/ Foreign key
Description_code	VARCHAR(20) - Code that uniquely identifies a check description.	
Title_code	VARCHAR(20) - Code that uniquely identifies a check description.	

Table C-28 ESM_Check_Message table

Field name	Description	Key type
Letter	CHAR(1) - Uniquely identifies module checks for message display.	Primary key/ Foreign key
OS_module_ID	CHAR(32) - Uniquely identifies modules for message display.	Primary key/ Foreign key
Message_ID	INTEGER - Holds an integer that identifies a message.	Primary key/ Foreign key

Table C-29 ESM_Domain table

Field name	Description	Key type
Domain_ID	CHAR(32) - Holds a unique character string that identifies the Symantec ESM domain.	Primary key/ Foreign key
Domain_Name	VARCHAR(64) - Holds a string of variable length (up to 64 characters) that identifies the name of a domain.	
User_defined	TINYINT - Boolean that identifies whether the Symantec ESM domain can be defined by the user.	
Manager_ID	CHAR(32) - Holds the unique character string that identifies a Symantec ESM Manager.	Foreign key

Table C-30 ESM_Module table

Field name	Description	Key type
Short_name	VARCHAR(32) - Holds a string of variable length (up to 32 characters) that identifies the short name of an ESM Module.	Primary key
Long_name_code	NVARCHAR(18) - Holds a string of variable length (up to 18 characters) that identifies the short name of an ESM Module. Can include multi-byte unicode characters for international use. Joined the CONTENT_STRING_MAP table.	

Table C-31 ESM_OS_Module table

Field name	Description	Key type
OS_module_ID	CHAR(32) - String that identifies the operating systems specific to the modules.	Foreign key
Platform	VARCHAR(32) - Holds a string of variable length (up to 32 characters) that identifies the platform for a specific OS Module.	
Short_name	VARCHAR(32) - Holds a string of variable length (up to 32 characters) that identifies the short name of an ESM Module.	Foreign key

Table C-32 Locale_Map table

Field name	Description	Key type
Locale_code	VARCHAR(32) - Holds a string of variable length (up to 32 characters) that identifies the language being used.	
Locale_ID	CHAR(32) - Holds a string of fixed length (32 characters) that identifies which language Symantec ESM is using.	Primary key

Table C-33 Manager table

Field name	Description	Key type
Manager_ID	CHAR(32) - Holds the unique character string that identifies a Symantec ESM Manager.	Primary key/ Foreign key
Manager_name	NVARCHAR(128) - Holds the name of the Symantec ESM Manager.	
Max_agents	INTEGER - Holds an integer that corresponds to the maximum number of agents per specific manager.	
Last_poll_status	VARCHAR(32) - Holds data that specifies the state of a manager the last time that the Symantec Reporting Database Link attempted to contact the manager.	
Last_poll_datetime	TIMESTAMP - Contains the system time for the date of the end of a specific manager poll.	

Table C-34 Manager_Poll_Error table

Field name	Description	Key type
Mgr_poll_error_ID	CHAR(32) - Code that uniquely identifies manager poll error string.	Primary key
Error_string	VARCHAR(256) - The message text for manager poll errors.	
Error_datetime	TIMESTAMP - Contains the system time for a specific error event.	
Manager_ID	CHAR(32) - Holds the unique character string that identifies a Symantec ESM Manager.	Foreign key

Table C-35 Message table

Field name	Description	Key type
Message_ID	INTEGER - Holds an integer that identifies a message.	Primary key

Table C-35 Message table

Field name	Description	Key type
Title_code	VARCHAR(20) - Code that identifies the message title.	
Description_code	VARCHAR(20) - Code that identifies the message description.	
Format_code	VARCHAR(20) - Code that identifies the message format.	
Severity_ID	SMALLINT - Holds a small integer that identifies the level of severity.	Foreign key

Table C-36 Message_Name_Info table

Field name	Description	Key type
Name_info_ID	CHAR(32) - Code that identifies the message status for localization and suppression.	Primary key
Suppressed	SMALLINT - Boolean that identifies whether the message information was suppressed.	
Message_state_ID	CHAR(32) - Holds the unique character string that identifies the current state of the message.	Foreign key

Table C-37 Message_State table

Field name	Description	Key type
Message_state_ID	CHAR(32) - Holds the unique character string that identifies the current state of the message.	Primary key
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	Foreign key
Audit_datetime	TIMESTAMP - Contains the system time for the date of a specific audit.	
Message_ID	INTEGER - Holds an integer that identifies a message.	Foreign key

Table C-37 Message_State table

Field name	Description	Key type
Short_name	VARCHAR(32) - Holds a string of variable length (up to 32 characters) that identifies the short name of the message.	Foreign key
Agent_ID	CHAR(32) - Holds a character string that identifies the name of the Symantec ESM Agent host computer.	Foreign key
Total_messages	INT - Holds the total number of messages.	
Suppr_messages	INT - holds the total number of suppressed messages.	

Table C-38 Message_String_Map table

Field name	Description	Key type
Name_info_ID	CHAR(32) - Code that identifies the message for localization.	Primary key/ Foreign key
Locale_ID	CHAR(32) - Holds a string of fixed length (32 characters) that identifies the language that Symantec ESM is using.	Primary key/ Foreign key
String_type	CHAR(4) - String that identifies whether a message is a name or an info message.	Primary key
String_value	NVARCHAR (2000) - Holds a string that can include multi-byte unicode characters for international use.	

Table C-39 Mod_Err_Str_Map table

Field name	Description	Key type
String_value	NVARCHAR (2000) - Holds a string that can include multi-byte unicode characters for international use.	
Short_name	VARCHAR(32) - Holds a string of variable length (up to 32 characters) that identifies the short name of an ESM Module.	Primary key/ Foreign key

Table C-39 Mod_Err_Str_Map table

Field name	Description	Key type
Agent_audit_err_ID	CHAR(32) - Holds the unique character string that identifies each agent audit error.	Primary key/ Foreign key
Locale_ID	CHAR(32) - Holds a string of fixed length (32 characters) that identifies which language Symantec ESM is using.	Primary key/ Foreign key

Table C-40 Module_Audit_Error table

Field name	Description	Key type
Short_name	VARCHAR(32) - Holds a string of variable length (up to 32 characters) that identifies the short name of an ESM Module.	Primary key/ Foreign key
Agent_audit_err_ID	CHAR(32) - Holds the unique character string that identifies each agent audit error.	Primary key/ Foreign key

Table C-41 Policy table

Field name	Description	Key type
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	Primary key
Policy_name	VARCHAR(32) - Holds the unique character string that identifies each policy.	
Manager_ID	CHAR(32) - Holds the unique character string that identifies a Symantec ESM Manager.	Foreign key

Table C-42 Policy_Changelog table

Field name	Description	Key type
Hash	CHAR(32) - Holds the unique character string that identifies the hash of the corresponding Symantec ESM Policy.	

Table C-42 Policy_Changelog table

Field name	Description	Key type
Change_datetime	TIMESTAMP - Contains the system time for the date and time of a specific changelog event.	Primary key
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	Primary key/ Foreign key

Table C-43 Policy_OS_Version table

Field name	Description	Key type
OS_version_ID	CHAR(32) - Code that identifies the operating system version.	Primary key
Platform	VARCHAR(32) - String that holds the name of the operating system.	

Table C-44 Report_String_Map table

Field name	Description	Key type
String_key	INTEGER - Code for identifying a data information string within a grouping of data information strings.	Primary key
String_group	INTEGER - Code for identifying a logical grouping of strings.	Primary key
Locale_ID	CHAR(32) - Holds a string of fixed length (32 characters) that identifies which language Symantec ESM is using.	Primary key/ Foreign key
String_value	NVARCHAR (2000) - Holds a string that can include multi-byte unicode characters for international use.	

Table C-45 RPT_all_mgr_Perm table

Field name	Description	Key type
User_Name	NVARCHAR(18) - Holds the user name.	Primary key

Table C-45 RPT_all_mgr_Perm table

Field name	Description	Key type
View_all_domains	TINYINT - Boolean integer that shows whether a user has permissions to view all domains in Symantec ESM Reporting,	
View_all_policies	TINYINT - Boolean integer that shows whether a user has permissions to view all policies in Symantec ESM Reporting,	
View_ESM_accounts	TINYINT - Boolean integer that shows whether a user has permissions to view all accounts in Symantec ESM Reporting,	

Table C-46 RPT_Domain_Perm table

Field name	Description	Key type
User_Name	NVARCHAR(18) - Holds the user name for the Symantec Enterprise Reporting user account.	Primary key
IS_ESM_account	TINYINT - Boolean integer that shows whether user permissions to view data in Symantec ESM Reporting are synchronized with user permissions in the Symantec ESM Console, This data should not be altered.	
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	Primary key/ Foreign key

Table C-47 RPT_Manager_Perm table

Field name	Description	Key type
User_Name	NVARCHAR(18) - Holds the user name for the Symantec Enterprise Reporting user account.	Primary key
Manager_ID	CHAR(32) - Holds the unique character string that identifies a Symantec ESM Manager.	Primary key/ Foreign key

Table C-47 RPT_Manager_Perm table

Field name	Description	Key type
IS_ESM_account	TINYINT - Boolean integer that shows whether user permissions to view data in Symantec ESM Reporting are synchronized with user permissions in the Symantec ESM Console, This data should not be altered.	
View_all_domains	TINYINT - Boolean integer that shows whether a user has permissions to view all domains in Symantec ESM Reporting,	
View_all_policies	TINYINT - Boolean integer that shows whether a user has permissions to view all policies in Symantec ESM Reporting,	
View_ESM_accounts	TINYINT - Boolean integer that shows whether a user has permissions to view all accounts in Symantec ESM Reporting,	

Table C-48 RPT_Policy_Perm table

Field name	Description	Key type
User_Name	NVARCHAR(18) - Holds the user name.	Primary key
IS_ESM_account	TINYINT - Boolean integer that shows whether user permissions to view data in Symantec ESM Reporting are synchronized with user permissions in the Symantec ESM Console, This data should not be altered.	
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	Primary key/ Foreign key

Table C-49 Run_state_string table

Field name	Description	Key type
Run_state	SMALLINT - Boolean that identifies whether the policy run was a full policy run.	Primary key
String_code	VARCHAR(20) - Code that identifies a specific string.	

Table C-50 Severity table

Field name	Description	Key type
Severity_ID	SMALLINT - Holds a small integer that identifies the level of severity.	Primary key
Severity_name_code	VARCHAR(20) - Code that identifies a severity name string.	
Rating_multiplier	INTEGER - Integer that holds values for the amount of points that a message adds to a rating. Ten points for a red message, 1 point for a yellow message, and zero points for a green message.	

Table C-51 SU_Version table

Field name	Description	Key type
Platform	CHAR(16) - Holds the operating system type and version.	Primary key
SU_version	CHAR(16) - Holds the Security Update version for thae computer.	
Locale_ID	CHAR(32) - Holds a string of fixed length (32 characters) that identifies which language Symantec ESM is using.	Primary key/ Foreign key

Table C-52 Suppression table

Field name	Description	Key type
Suppression_ID	CHAR(32) - Holds the unique character string that identifies the supression.	Primary key
Suppression_name	NVARCHAR(256) - Holds the data that identifies the suppression by name.	
Info_string	NVARCHAR (2000) - Holds a string that can include multi-byte unicode characters for international use.	
Agent	NVARCHAR(256) - Holds the name of the agent.	

Table C-52 Suppression table

Field name	Description	Key type
Name_wildcarded	SMALLINT - Holds a boolean that shows whether a supression is using a wildcard in the name.	
Info_wildcarded	SMALLINT - Holds a boolean that shows whether a supression is using a wildcard in the information.	
Agent_wildcarded	SMALLINT - Holds a boolean that shows whether a supression is using a wildcard in the agent name.	
Enabled	SMALLINT - Boolean that identifies whether message suppression was enabled.	
Suppr_comment	NVARCHAR(512) - Holds a string that can include multi-byte unicode characters for international use.	
Creation_date	TIMESTAMP - Contains the system time of the creation of a specific suppression event.	
Last_used_date	TIMESTAMP - Contains the system time for the date of the last time the suppression was used.	
Expiration_date	TIMESTAMP - Contains the system time for the date and time of the suppression's expiration.	
OS_module_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM operating system module.	Foreign key
Policy_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM policy.	Foreign key
Message_ID	INTEGER - Holds an integer that identifies a message.	Foreign key
Account_ID	CHAR(32) - Holds the unique character string that identifies the Symantec ESM account.	Foreign key

Database Views

The following views represent objects that you can use to create reports. Because the views behave exactly like database tables, they can be queried and joined to other tables and views as if they were tables. Use of all of the views listed here in place of using the underlying tables where appropriate.

Note: There are some views in the database that are not documented here. These views have been depreciated. Avoid using these views.

Views with localizable text

In the following views, the LOCALE_CODE field is the language code.

An example of a locale code for english is as follows: (LOCALE_CODE = 'en')

The following query returns all of the category strings and important category information for the english locale code:

```
SELECT * FROM ESMDB10.CATEGORY_STRINGS WHERE LOCALE_CODE = 'en'
```

CATEGORY_STRINGS

This is a view of the internationalized strings for high level categories including Policy compliance, Change notification, and all other categories with a CATEGORY_TYPE of 1.

Table C-53 CATEGORY_STRINGS

Field name	Data type	Length	Nulls
LOCALE_CODE	VARCHAR	32	No
CATEGORY_ID	INTEGER	4	No
CATEGORY_NAME	VARGRAPHIC	2000	No
TREND	SMALLINT	2	Yes
CATEGORY_TYPE	INTEGER	4	Yes

ESM_MODULE_STRINGS

This is a view of all of the internationalized strings from the ESM_MODULES table as defined in Symantec ESM.

Table C-54 ESM_MODULE_STRINGS

Field name	Data type	Length	Nulls
LOCALE_CODE	VARCHAR	32	No
LOCALE_ID	CHARACTER	32	No
SHORT_NAME	VARCHAR	32	No
LONG_NAME	VARGRAPHIC	2000	No

MESSAGE_STRINGS

This is a view of all of the internationalized strings from the MESSAGES table as defined in Symantec ESM.

Table C-55 MESSAGE_STRINGS

Field name	Data type	Length	Nulls
LOCALE_CODE	VARCHAR	32	No
MESSAGE_ID	INTEGER	4	No
DESCRIPTION	VARGRAPHIC	2000	No
TITLE	VARGRAPHIC	2000	No
FORMAT	VARGRAPHIC	2000	No
SEVERITY_ID	SMALLINT	2	No
SEVERITY_NAME	VARGRAPHIC	2000	No

MODULE_STRINGS

This is view of the internationalized strings from the CATEGORY table for the categories that correspond to the modules that are defined in Symantec ESM.

Table C-56 MODULE_STRINGS

Field name	Data type	Length	Nulls
LOCALE_CODE	VARCHAR	32	No
CATEGORY_ID	INTEGER	4	No

Table C-56 MODULE_STRINGS

Field name	Data type	Length	Nulls
CATEGORY_NAME	VARGRAPHIC	2000	No
MODULE_NAME	VARGRAPHIC	2000	No
MOD_CATEGORY_ID	INTEGER	4	No
TREND	SMALLINT	2	Yes

SEVERITY_STRINGS

This is a view of all of the internationalized strings from the SEVERITY table. Although there are five severity levels defined (0 - 4), they usually map to only 3 security levels (red, yellow, and green) as defined in Symantec ESM.

Table C-57 SEVERITY_STRINGS

Field name	Data type	Length	Nulls
LOCALE_CODE	VARCHAR	32	No
SEVERITY_ID	SMALLINT	2	No
RATING_MULTIPLIER	INTEGER	4	Yes
SEVERITY_NAME	VARGRAPHIC	2000	No

CHG_MSG_DETAILS

This is a view of the internationalized strings for the CHG_MESSAGE_EVENT table. This table holds the change management details from the Symantec ESM change management modules.

Table C-58 CHG_MSG_DETAILS

Field name	Data type	Length	Nulls
LOCALE_CODE	VARCHAR	32	No
CHG_MSG_EVENT_ID	CHARACTER	32	No
POLICY_ID	CHARACTER	32	No
AGENT_ID	CHARACTER	32	No
AUDIT_DATETIME	TIMESTAMP	10	Yes
MESSAGE_ID	INTEGER	4	No

Table C-58 CHG_MSG_DETAILS

Field name	Data type	Length	Nulls
NAME	VARGRAPHIC	2000	Yes
INFO	VARGRAPHIC	2000	Yes

MSG_STATE_DETAILS

This is a view of the internationalized strings for the messages generated by the Symantec ESM Managers.

Table C-59 MSG_STATE_DETAILS

Field name	Data type	Length	Nulls
LOCALE_CODE	VARCHAR	32	Yes
MESSAGE_STATE_ID	CHARACTER	32	No
POLICY_ID	CHARACTER	32	No
AGENT_ID	CHARACTER	32	No
AUDIT_DATETIME	TIMESTAMP	10	Yes
MESSAGE_ID	INTEGER	4	Yes
SHORT_NAME	VARCHAR	32	No
CATEGORY_ID	INTEGER	4	Yes
MODULE_ID	INTEGER	4	No
SUPPRESSED	SMALLINT	2	Yes
NAME	VARGRAPHIC	2000	Yes
INFO	VARGRAPHIC	2000	Yes

Views without text

The remaining views do not contain text details, therefore, no locale is selectable. These views are primarily used for gathering message metrics and statistics.

CAT_AGENT_TREND

This view represents historical message trend metrics for specific agents.

Table C-60 CAT_AGENT_TREND

Field name	Data type	Length	Nulls
POLICY_ID	CHARACTER	32	No
AGENT_ID	CHARACTER	32	No
AUDIT_DATETIME	TIMESTAMP	10	No
AUDIT_DATE	DATE	4	No
SEVERITY_ID	SMALLINT	2	No
MODULE_ID	INTEGER	4	No
MESSAGES	INTEGER	4	Yes
SUPPR_MESSAGES	INTEGER	4	Yes
UNIQUE_MESSAGES	INTEGER	4	Yes
UNIQUE_SUPPR_MSGS	INTEGER	4	Yes
UNIQUE_PSBL_MSGS	INTEGER	4	Yes
GROUPED_AGENTS	INTEGER	4	Yes
RUN_AGENTS	INTEGER	4	Yes

CAT_DOMAIN_TREND

This view represents message trend metrics for domains. Each domain represents a single domain on a specific Symantec ESM Manager. To get metrics for domains that span managers you must join this table on a query which selects all appropriate domains.

Table C-61 CAT_DOMAIN_TREND

Field name	Data type	Length	Nulls
POLICY_ID	CHARACTER	32	No
DOMAIN_ID	CHARACTER	32	No
AUDIT_DATETIME	TIMESTAMP	10	No
AUDIT_DATE	DATE	4	No
SEVERITY_ID	SMALLINT	2	No

Table C-61 CAT_DOMAIN_TREND

Field name	Data type	Length	Nulls
MODULE_ID	INTEGER	4	No
MESSAGES	INTEGER	4	Yes
SUPPR_MESSAGES	INTEGER	4	Yes
UNIQUE_MESSAGES	INTEGER	4	Yes
UNIQUE_SUPPR_MSGS	INTEGER	4	Yes
UNIQUE_PSBL_MSGS	INTEGER	4	Yes
GROUPED_AGENTS	INTEGER	4	Yes
RUN_AGENTS	INTEGER	4	Yes

MESSAGE_STATE_INFO

This view represents current message metrics for agents.

Table C-62 MESSAGE_STATE_INFO

Field name	Data type	Length	Nulls
CATEGORY_ID	INTEGER	4	Yes
MODULE_ID	INTEGER	4	No
POLICY_ID	CHARACTER	32	No
AGENT_ID	CHARACTER	32	No
AUDIT_DATETIME	TIMESTAMP	10	Yes
SEVERITY_ID	SMALLINT	2	No
MESSAGE_ID	INTEGER	4	No
SHORT_NAME	VARCHAR	32	No
MESSAGE_STATE_ID	CHARACTER	32	No
MESSAGES	INTEGER	4	Yes
SUPPR_MESSAGES	INTEGER	4	Yes
UNIQUE_MESSAGES	INTEGER	4	No
UNIQUE_SUPPR_MSGS	INTEGER	4	No
UNIQUE_PSBL_MSGS	INTEGER	4	No

System assessment checklists

This appendix includes the following topics:

- About system assessment checklists
- Symantec ESM Reporting Database Foundation checklist
- Symantec ESM Reporting Database Link checklist
- Symantec Enterprise Reporting checklist
- Symantec ESM Reporting Report Package checklist

About system assessment checklists

These system assessment checklists can help you evaluate the suitability of the computers on which you plan to install Symantec ESM Reporting components or Symantec Enterprise Reporting components.

Symantec ESM Reporting Database Foundation checklist

See "Symantec ESM system requirements" on page 29.

Table D-1 Symantec ESM Reporting Database Foundation checklist

Question	Response
What is the computer's name?	

Table D-1 Symantec ESM Reporting Database Foundation checklist

Question	Response
If you are installing on a distributed configuration, what are the names and intended uses of the other computers?	
What is the computer's communication protocol address?	
What operating system is running on the computer?	
What version of the operating system is running on the computer?	
What relational database management system is running on the computer?	
What version of the relational database management system is running on the computer?	
What is the installation file system path name?	
Do you have access to accounts with the required privileges on the computer?	
What CD-ROM drive can you use to load the software?	
Can you run a network connectivity test to verify that the computer can connect to the computers in the Symantec ESM Reporting Database Link checklist and the Symantec Enterprise Reporting checklist?	

Symantec ESM Reporting Database Link checklist

See "Symantec ESM Reporting Database Link system requirements" on page 34.

Table D-2 Symantec ESM Reporting Database Link checklist

Question	Response
What is the computer's name?	

Table D-2 Symantec ESM Reporting Database Link checklist

Question	Response
What is the computer's communication protocol address?	
What operating system is running on the computer?	
What version of the operating system is running on the computer?	
Does the computer have sufficient memory and free disk space to install and run the Symantec ESM Reporting Database Link software?	
For UNIX systems, does the computer have sufficient swap space to run the software?	
What is the installation file system path name?	
What Web server is running on the computer?	
What JDBC drivers are running on the computer?	
Do you have access to accounts with the required privileges on the computer?	
What CD-ROM drive can you use to load the software?	
What version of Symantec ESM is running on the Symantec ESM Manager computers?	
Can you run a network connectivity test to verify that the computer can connect to the computers in the Database Foundation checklist and the Symantec ESM Reporting Database Link checklist?	

Symantec Enterprise Reporting checklist

See "Symantec Enterprise Reporting system requirements" on page 30.

Table D-3 Symantec Enterprise Reporting checklist

Question	Response
What is the computer's name?	
If you are installing on a distributed configuration, what are the names and intended uses of the other computers?	
What is the computer's communication protocol address?	
What operating system is running on the computer?	
What version of the operating system is running on the computer?	
Does the computer have sufficient memory and free disk space to install and run the Symantec Enterprise Reporting software?	
What is the installation file system path name?	
What Web server is running on the computer?	
What JDBC drivers are running on the computer?	
Does your security policy require login authentication?	
Do you have access to accounts with the required privileges on the computer?	
What CD-ROM drive can you use to load the software?	
Can you run a network connectivity test to verify that the computer can connect to the computers in the Database Foundation checklist and the Symantec ESM Reporting Database Link checklist?	

Symantec ESM Reporting Report Package checklist

See “Symantec ESM system requirements” on page 29.

Table D-4 Symantec ESM Reporting Report Package checklist

Question	Response
What is the computer’s name?	
If you are installing on a distributed configuration, what are the names and intended uses of the other computers?	
What is the computer’s communication protocol address?	
What operating system is running on the computer?	
What version of the operating system is running on the computer?	
What relational database management system is running on the computer?	
What is the installation file system path name?	
Do you have access to accounts with the required privileges on the computer?	
What CD-ROM drive can you use to load the software?	
Can you run a network connectivity test to verify that the computer can connect to the computers in the Symantec ESM Reporting Database Link checklist and the Symantec Enterprise Reporting checklist?	

Appendix E

About Symantec ESM Reporting categories

This appendix includes the following topic:

- About the categories in Symantec ESM Reporting

About the categories in Symantec ESM Reporting

Symantec ESM Reporting uses categories as a way to classify messages. The following list displays each category:

- Change notification
- ESM administrative information
- ESM error
- ICE
- Patch assessment
- Policy compliance
- System error
- System information

Categories are created from the messages that Symantec ESM generates. These messages are also associated with Symantec ESM Modules. Any module that contains one or more messages that fall in a certain category is also associated with that category. The following table displays the modules that are in each category and describes each category. The modules associated with each category may vary depending on your security update level.

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
Change Notification	Account Integrity	This category contains all messages that have to do with changes to snapshots on Symantec ESM Agent computers. It reports messages that are related to snapshots that deal with new, modified, and deleted messages.
	File Attributes	
	File Find	
	File Watch	
	Network Integrity	
	Object Integrity	
	Oracle Accounts	
	Oracle Auditing	
	Oracle Configuration	
	Oracle Profiles	
	Oracle Roles	
	Oracle Tablespace	
	Registry	
	Startup Files	
ESM Administrative Information	Account Information	This category contains messages that inform the user of actions that Symantec ESM took. For example, messages regarding the creation of a snapshot or checks that were not performed fall into this category. Unexpected actions could indicate security risks.
	Account Integrity	
	Active Directory	
	Backup Integrity	

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
	Device Integrity	
	Discovery	
	Disk Quota	
	Encrypted File System	
	File Access	
	File Attributes	
	File Find	
	File Information	

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
ESM Administrative Information	File Watch	This category contains messages that inform the user of actions that Symantec ESM took. For example, messages regarding the creation of a snapshot or checks that were not performed fall into this category. Unexpected actions could indicate security risks.
	Integrated Command Engine	
	Login Parameters	
	Network Integrity	
	OS Patches	
	Object Integrity	
	Oracle Accounts	
	Oracle Auditing	
	Oracle Configuration	
	Oracle Networks	
	Oracle Objects	
	Oracle Passwords	
	Oracle Patches	
	Oracle Profiles	
	Oracle Roles	
	Oracle Tablespace	
	Password Strength	
	Program Find (Queries)	
	Registry	
	Response	
	SQL Server Auditing	
	SQL Server Configuration	
	SQL Server Objects	
	SQL Server Password Strength	
	SQL Server Roles	
	Startup Files	
	Symantec Product Info	

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
ESM Administrative Information	SysVal - Control	This category contains messages that inform the user of actions that Symantec ESM took. For example, messages regarding the creation of a snapshot or checks that were not performed fall into this category. Unexpected actions could indicate security risks.
	SysVal - Security	
	SysVal - Storage	
	System Auditing	
	System Mail	
	System Queues	
	User Files	
ESM Error	Account Information	Messages in this category inform users of Symantec ESM Policy configuration errors. The errors that these messages report can be corrected by adjusting Symantec ESM Policy configurations.
	Account Integrity	
	Active Directory	
	Backup Integrity	
	Device Integrity	
	Discovery	
	Disk Quota	
	Encrypted File System	
	File Access	
	File Attributes	
	File Find	
	File Information	
	File Watch	
	Integrated Command Engine	
	Login Parameters	
	Network Integrity	
	OS Patches	
	Object Integrity	
	Oracle Accounts	
	Oracle Auditing	

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
ESM Error	Oracle Configuration	Messages in this category inform users of Symantec ESM Policy configuration errors. The errors that these messages report can be corrected by adjusting Symantec ESM Policy configurations.
	Oracle Networks	
	Oracle Objects	
	Oracle Passwords	
	Oracle Patches	
	Oracle Profiles	
	Oracle Roles	
	Oracle Tablespace	
	Password Strength	
	Program Find (Queries)	
	Registry	
	Response	
	SQL Server Auditing	
	SQL Server Configuration	
	SQL Server Objects	
	SQL Server Password Strength	
	SQL Server Roles	
	Startup Files	
	Symantec Product Info	
	SysVal - Control	
	SysVal - Security	
	SysVal - Storage	
	System Auditing	
	System Mail	
	System Queues	
	User Files	

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
ICE	Integrated Command Engine	Messages in this category are all derived from the Integrated Command Engine module. The messages in this category are difficult to classify because the meaning of the messages can vary depending on the Integrated Command Engine scripts.
Patch Assessment	OS Patches	Messages in this category report information on the state of operating system patches. These messages detail whether a computer has all of the necessary patches.
Policy Compliance	Account Information	This category contains messages that report whether a Symantec ESM Agent host computer complies with a Symantec ESM Policy. Security levels associated with these messages rate the severity of the security risk to these computers.
	Account Integrity	
	Active Directory	
	Backup Integrity	
	Device Integrity	
	Disk Quota	
	Encrypted File System	
	File Access	
	File Attributes	
	File Find	
	File Watch	
	Login Parameters	
	Network Integrity	
	OS Patches	
	Object Integrity	
	Oracle Accounts	
	Oracle Auditing	
	Oracle Configuration	

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
Policy Compliance	Oracle Networks	This category contains messages that report whether a Symantec ESM Agent host computer complies with a Symantec ESM Policy. Security levels associated with these messages rate the severity of the security risk to these computers.
	Oracle Objects	
	Oracle Passwords	
	Oracle Patches	
	Oracle Profiles	
	Oracle Roles	
	Oracle Tablespace	
	Password Strength	
	Program Find (Queries)	
	Registry	
	Response	
	SQL Server Auditing	
	SQL Server Configuration	
	SQL Server Objects	
	SQL Server Password Strength	
	SQL Server Roles	
	Startup Files	
	Symantec Product Info	
	SysVal - Control	
	SysVal - Security	
	SysVal - Storage	
	System Auditing	
	System Mail	
	System Queues	
	User Files	

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
System Error	<All Modules>	Messages in this category report errors on Symantec ESM Agent host computers that prevent or invalidate a policy run. These can be regarded as audit errors.
	Account Information	
	Account Integrity	
	Active Directory	
	Backup Integrity	
	Device Integrity	
	Discovery	
	Disk Quota	
	Encrypted File System	
	File Access	
	File Attributes	
	File Find	
	File Information	
	File Watch	
	Integrated Command Engine	
	Login Parameters	
	Network Integrity	
	OS Patches	
	Object Integrity	
	Oracle Accounts	
	Oracle Auditing	
	Oracle Configuration	
	Oracle Networks	
	Oracle Objects	
	Oracle Passwords	
	Oracle Patches	
	Oracle Profiles	

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
System Error	Oracle Roles	Messages in this category report errors on Symantec ESM Agent host computers that prevent or invalidate a policy run. These can be regarded as audit errors.
	Oracle Tablespace	
	Password Strength	
	Program Find (Queries)	
	Registry	
	Response	
	SQL Server Auditing	
	SQL Server Configuration	
	SQL Server Objects	
	SQL Server Password Strength	
	SQL Server Roles	
	Startup Files	
	Symantec Product Info	
	SysVal - Control	
	SysVal - Security	
	SysVal - Storage	
	System Auditing	
	System Mail	
	System Queues	
	User Files	
System Information	<All Modules>	Messages in this category report information that can be used to manually assess or audit a computer. These messages do not have a direct implication regarding the security state of the computer.
	Account Information	
	Account Integrity	
	Active Directory	
	Backup Integrity	
	Discovery	
	Disk Quota	

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
System Information	Encrypted File System	Messages in this category report information that can be used to manually assess or audit a computer. These messages do not have a direct implication regarding the security state of the computer.
	File Access	
	File Attributes	
	File Find	
	File Information	
	Login Parameters	
	Network Integrity	
	OS Patches	
	Object Integrity	
	Oracle Accounts	
	Oracle Auditing	
	Oracle Configuration	
	Oracle Networks	
	Oracle Objects	
	Oracle Passwords	
	Oracle Patches	
	Oracle Profiles	
	Oracle Roles	
	Oracle Tablespace	
	Password Strength	
	Program Find (Queries)	
	Registry	
	Response	
	SQL Server Configuration	
	Startup Files	
	System Auditing	
	System Mail	

Table E-1 Symantec ESM Reporting Categories

Category	Module	Description
System Information	System Queues	Messages in this category report information that can be used to manually assess or audit a computer. These messages do not have a direct implication regarding the security state of the computer.
	User Files	

Determining messages and modules in a category

To find the messages that are associated with each category, you can run a query in Query Studio. This query can also show the modules.

To run a message query

1. Open Query Studio.
2. Expand the Message Information folder.
3. Expand the Messages query subject.
4. Insert the following information objects in order:
   - Category
   - Module
   - Message Title
5. Group the Category column. For detailed steps to group columns, see the online Help, or the *Administration and Security Guide*. You can find this guide on the CD in the Docs\Symantec Enterprise Reporting directory.

Symantec ESM Reporting installation scripts

This appendix includes the following topics:

About Symantec ESM Reporting installation scripts

The Database Foundation installer creates the ESM database for Symantec ESM Reporting, the SER database for Symantec Enterprise Reporting, and installs all of the necessary components to a single disk drive. If you are creating the ESM and SER databases on separate physical disk drives, installing to a cluster, or installing on an IBM DB2 database server and want more than 2 GB for Index tablespaces and 2 GB for User tablespaces, Symantec provides SQL scripts that let you manually create the ESM and SER databases. For only DB2 and Microsoft SQL Server, you must use the Database Foundation installer to import the necessary data into the databases. After importing the data, you must run an additional SQL script to tune the database.

See "About the Database Foundation installer" on page 24.

IBM DB2 8.1, Symantec provides additional scripts that let you connect the run-time client to the Symantec ESM Reporting Database Link and Symantec Enterprise Reporting.

See "Checking the installation logs for errors or warnings" on page 99.

About the installation scripts for IBM DB2

On the Symantec ESM Reporting Windows CD in the sql\db2 folder, Symantec provides the create_esm_db.bat file. You can use this .bat file to execute a command file. The command file executes the sql scripts that create the ESM database. The sql scripts are in the sql\db2\createESMdb folder.

The sql scripts create the data file for the database in the <database_name>Data folder. By default, the sql scripts create the ESM database in the C:\ESMDATA folder. To improve database performance, you can use a text editor to change the default disk drive in the sql scripts, specifying one physical disk drive for the Index tablespaces and another physical disk drive for the Data tablespaces.

You can use a text editor to change the create_esm_db.bat file and specify a different location for the data file in which the ESM database will be created.

To change the location of the file for the ESM database

1. Use a text editor to open the sql\db2\create_esm_db.bat file.
2. Change C:\ESMDATA to the specified location.

To change the name of the ESM database

1. Use a text editor to open the sql\db2\createESMdb\create_db.sql file.
2. Change the appropriate section of the script file.

If you change the name of the ESM database in the installation scripts, you must change the name of the ESM database in the create_esm_db.cmd script and the post_install.cmd script.

The installer creates three tablespaces using the default location:

- Tablespace ESM_32K_IDX_TS
  The file name is C:\ESMDATA\INDEX32K.
- Tablespace ESM_32K_USR_TS
  The file name is C:\ESMDATA\USER32K.
- Tablespace ESM_32K_TMP_TS
  The file name is C:\ESMDATA\TEMP32K.

If you change the data file location in the create_esm_db.bat file, you must also change the create_tablespace.sql script in the sql\db2\createESMdb folder.

To change the ESM database tablespace location or any of its parameters

1. Use a text editor to open the sql\db2\create_esm_db\
   create_tablespace.sql script.
2. Change the appropriate sections of the script file.

To change the location of the tablespace ESM_32K_IDX_TS, ESM_32K_USR_TS, or ESM_32K_TMP_TS or any of its parameters

1. Use a text editor to open the sql\db2\create_esm_db\create_tablespace.sql script.
2. Change the appropriate sections of the script file.

Example 1

To change the location of the ESM database to D:\MyDatabase

1. Use a text editor to open the sql\db2\create_esm_db.bat file.
2. Find the line of text containing C:\ESMDATA.
3. Change C:\ESMDATA to D:\MyDatabase.
4. The modified line of text should read as follows:
   if not exist D:\MyDatabase mkdir D:\MyDatabase
5. Use a text editor to open the sql\db2\createESMdb\create_tablespace.sql file.
6. Find the lines of text containing C:\ESMDATA.
7. Change C:\ESMDATA to D:\MyDatabase.
8. The modified lines of text should read as follows:
   USING(File ‘D:\MyDatabase\...’)

Example 2

To change the location of the tablespace

1. Use a text editor to open the sql\db2\createESMdb\create_tablespace.sql file.
2. Find the line of text containing using C:\ESMDATA\... to a new location.

You can use a similar process to manually create the SER database. On the Symantec ESM Reporting Windows CD in the sql\db2 folder, Symantec provides the create_ser_db.bat file. You can use this .bat file to execute a command file. The command file executes the sql scripts that create the SER database. The sql scripts are in the sql\db2\createSERdb folder.

You can use a text editor to do the following tasks:

- Change the create_ser_db.bat file and specify a different location for the data file in which the SER database will be created.

- Change the create_db.sql file and specify a different name for the SER database.

The installer creates two tablespaces using the default location:

- Tablespace TSN_SYS_SERCS
  The file name is C:\SERDATA\CNT_SYS_SERCS.
- Tablespace TSN_USER_SERCS
  The file name is C:\SERDATA\CNT_USER_SERCS.

About the connection scripts for IBM DB2

On the Symantec ESM Reporting Windows CD in the sql\db2 folder, Symantec provides the catalog_esm_db.bat and catalog_ser_db.bat files for only IBM DB2 v8.1. You can use the .bat files to connect the run-time client to the Symantec ESM Reporting Database Link and Symantec Enterprise Reporting. The sql scripts are in the sql\db2\runtime folder.

You can use a text editor to do the following tasks:

- Change the catalog_esm_db.bat file and specify a different name for the ESM database.
- Change the catalog_ser_db.bat file and specify a different name for the SER database.

About the installation scripts for Microsoft SQL Server

On the Symantec ESM Reporting Windows CD in the sql\sqlserver folder, Symantec provides the create_esm_db.bat file. You can use this .bat file to execute the sql scripts that create the ESM database. The sql scripts are in the sql\sqlserver\createESMdb folder.

Note: If you use the Database Foundation installer to create the ESM database, the installer creates the data file for the database in the <database_name>Data folder. By default, the Database Foundation installer creates the ESM database in the C:\ESMDATA folder. During the installation, you can specify another volume for the <database_name>Data folder.

You can use a text editor to change the create_esm_db.bat file and specify a different location for the data file in which the ESM database will be created. If you change the location of the ESM database in the installation scripts, you must change the location of the ESM database in the other .sql files that depend on the location. For example, the post_install.bat script.

To change the location of the file for the ESM database

1. Use a text editor to open the sql\sqlserver\create_esm_db.bat file.
2. Change C:\ESMDATA to the specified location.

To change the name of the ESM database

1. Use a text editor to open the sql\sqlserver\createESMdb\create_database.sql file.
2. Change the appropriate section of the script file.

The installer associates the following files with the ESM database:

- Database file: C:\<database_name>\ESMDATA.mdf
- Log file: C:\<database_name>\ESMlog.ldf

If you change the name of the ESM database in the installation scripts, you must change the name of the ESM database in the create_esm_db.bat script and the post_install.bat script.

Example 1

To change the location of the database file to D:\MyServer

1. Use a text editor to open the sql\sqlserver\create_esm_db.bat file.
2. Find the line of text containing C:\ESMDATA.
3. Do one of the following tasks:
   - Change C:\ESMDATA to D:\MyServer.
   - Copy the “if not exist” line and change C:\ESMData to D:\MyDatabase.
4. The modified lines of text should read as follows:

   ```
   FILENAME='D:\MyServer\ESMData.mdf'
   FILENAME='D:\MyServer\ESMLog.ldf'
   ```
5. Use a text editor to open the sql\sqlserver\createESMdb\create_database.sql file.
6. Find the line of text containing C:\ESMDATA.
7. Change C:\ESMDATA to D:\MyServer.
8. The modified lines of text should read as follows:

   ```
   FILENAME='D:\MyServer\ESMData.mdf'
   FILENAME='D:\MyServer\ESMLog.ldf'
   ```

You can use a similar process to manually create the SER database. On the Symantec ESM Reporting Windows CD in the sql\sqlserver folder, Symantec provides the create_ser_db.bat file. You can use this .bat file to execute the sql scripts that create the SER database. The sql scripts are in the sql\sqlserver\createSERdb folder.

You can use a text editor to do the following tasks:

- Change the create_ser_db.bat file and specify a different location for the data file in which the SER database will be created.
- Change the create_database.sql file and specify a different name for the SER database. By default, the database name is SERDATA.

The installer associates the following files with the SER database:

- Database file: C:\<database_name>\SERdata.mdf
- Log file: C:\<database_name>\SERlog.ldf

About the installation scripts for Oracle

When you run the Database Foundation installer and select the Default Oracle option, the installer creates two databases. By default, ESM is the name of the Symantec ESM Reporting database and SER is the name of the Symantec Enterprise Reporting database.

If you use the Database Foundation installer to create the ESM database, the installer creates the data files, control files, and tablespaces in $ORACLE_BASE/oradata/$ORACLE_SID. The installer associates the following files with the ESM database:

- Control files: control01.ctl, control02.ctl, and control03.ctl
- Database system file: system01.dbf
- Database temporary tablespace: temp01.dbf
- Database undo tablespace: undotbs01.dbf
- Database Log files: redo01.log (group 1), redo02.log (group 2), and redo03.log (group 3)

The installer associates the following tablespaces and files:

- Tablespace ESM_32K_IDX_TS
  This tablespace is used for indexes. The file name is esmidx01.dbf.
- Tablespace ESM_32K_USR_TS
  This tablespace is the user space. The file name is esm01.dbf.
- Tablespace ESM_32K_TMP_TS
  This tablespace is the user temporary tablespace. The file name is esmtemp01.dbf.

On the Symantec ESM Reporting Solaris CD, Symantec provides the create_esm_db.sh shell script. The shell script calls sql scripts that you can use to manually create the ESM database. The sql scripts for the ESM database are in the sql/oracle/createESMdb directory. You can change the scripts to specify a different location for the files.

If you change file locations, you must create the corresponding directories if they do not exist. You must also comment out the related lines of code in the oracle/create_esm_db.sh shell script so that it cannot create an extra directory. If you prefer, you can change the code to create the required directories. For example, you can type the following:

```
#if [ ! -d $ORACLE_BASE/oradata/$ORACLE_SID ]; then
#   mkdir -p $ORACLE_BASE/oradata/$ORACLE_SID
#else
```

```
#    rm -f $ORACLE_BASE/oradata/$ORACLE_SID/*
#fi
```

To change the location of the control files for the ESM database

1. Use a text editor to open the sql/oracle/createESMdb/init file.
2. Change control01.ctl, control02.ctl, and control03.ctl to the specified location.
   Make sure the new directories are created in the create_esm_db.sh file first.

To change the ESM database system file, temporary tablespace, undo tablespace, or any of its redo01.log files

1. Use a text editor to open the sql/oracle/createESMdb/CreateDB.sql script.
2. Change the appropriate sections of the script file.
   Make sure the new directories are created in the create_esm_db.sh file first.

To change the location of the tablespace ESM_32K_IDX_TS, ESM_32K_USR_TS, or ESM_32K_TMP_TS

1. Use a text editor to open the sql/oracle/createESMdb/CreateTableSpaces.sql script.
2. Change the appropriate sections of the script file.
   Make sure the new directories are created in the create_esm_db.sh file first.

To change the name of the ESM database

1. Use a text editor to open the sql/oracle/create_esm_db.sh file.
2. Change create_esm_db.sh to the specified name, for example, MyESMDatabase.

Example 1

To change the location of the control files to /myNewControlFilesLocation/

1. Use a text editor to open the sql/oracle/createESMdb/init file.
2. Find the line of text containing control01.ctl.
3. Change the location from "$ORACLE_BASE/oradata/$ORACLE_SID/control01.ctl" to "/myNewControlFilesLocation/control01.ctl".
4. Make the same change for control02.ctl and control03.ctl.
5. The modified line of text should read as follows:

```
control_files=("/myNewControlFilesLocation/control01.ctl",
"/myNewControlFilesLocation/control01.ct2",
"/myNewControlFilesLocation/control03.ctl")
```

Example 2

To change the location of the database file system to /oradata/myTestDatabase

1. Use a text editor to open the sql/oracle/createESMdb/CreateDB.sql file.
2. Change the line containing
   ```
   DATAFILE ‘$ORACLE_BASE/oradata/$ORACLE_SID/SYSTEM01.DBF
   ```
   to
   ```
   DATAFILE '/oradata/myTestDatabase/system01.dbf.
   ```

Example 3

To change the location of the tablespace ESM_32K_USR_TS to /ynewlocation/myDB

1. Use a text editor to open, sql/oracle/createESMdb/CreateTableSpaces.sql.
2. Find the line containing CREATE TABLESPACE ESM_32K_IDX_TS.
3. Change the next line from DATAFILE '$ORACLE_BASE/oradata/$ORACLE_SID/esmidx01.dbf' to DATAFILE '/mynewlocation/myDB/esmidx01.dbf'

You can use a similar process to manually create the SER database. On the Symantec ESM Reporting Solaris CD, Symantec provides the create_ser_db.sh shell script. The shell script calls the sql scripts that create the SER database. The sql scripts for the SER database are in the sql/oracle/createSERdb directory. You can change the scripts to specify a different location for the files.

If you use the Database Foundation installer to create the SER database, the installer creates the data files, control files, and tablespaces in $ORACLE_BASE/oradata/$ORACLE_SID. The Database Foundation installer associates the following files with the SER database:

- Control files: control01.ctl, control02.ctl, and control03.ctl.
- Database system file: system01.dbf
- Database temporary tablespace: temp01.dbf
- Database undo tablespace: undotbs01.dbf
- Database Log files: redo01.log (group 1), redo02.log (group 2), and redo03.log (group 3).

The installer associates the following tablespaces and files:

- Tablespace SER_32K_USR_TS
  This tablespace is the user space. The file name is ser01.dbf.

- Tablespace SER_32K_TMP_TS
  This tablespace is the user temporary tablespace. The file name is sertemp01.dbf.

Symantec ESM 6.1 Reporting™

CD Replacement Form

CD REPLACEMENT: After your 60-Day Limited Warranty, if your CD becomes unusable, fill out and return 1) this form, 2) your damaged CD, and 3) your payment (see pricing below, add sales tax if applicable), to the address below to receive replacement CD. *DURING THE 60-DAY LIMITED WARRANTY PERIOD, THIS SERVICE IS FREE.* You must be a registered customer in order to receive CD replacements.

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Glossary

agent See Symantec ESM Agent.

audit In Symantec ESM, an audit is a policy run.

category In Symantec ESM Reporting, a category is a group of related messages that separate modules can return. The term is specific to Symantec ESM Reporting.

checks In Symantec ESM, a check examines a specific setting or attribute of an agent. You can enable or disable a check. When a check is enabled in a policy run, it returns a message with a security level.

compliant In Symantec ESM Reporting, this parameter indicates whether an agent or domain conforms to a policy, module, message, or category. Agents or domains with a red or yellow security level are out of compliance.

compliance percentage In Symantec ESM Reporting, compliance percentage is a numerical value that shows how close an agent, manager, or domain is to being fully compliant. The value is calculated by taking the total number of reported compliant messages, and dividing it by the total number of possible reported messages. Messages that are not reported by disabled checks and suppressed messages are not counted in compliance percentage.

console See Symantec ESM Console.

domain In Symantec ESM, a domain is a set of computers. You can specify a domain based on organizational structure, such as computers in the accounting department, computer configuration or function, such as computers that function as Web servers, or other criteria.

ESM Agent See Symantec ESM Agent.

ESM Enterprise Console See Symantec ESM Console.

ESM Manager See Symantec ESM Manager.

line of business In Symantec ESM Reporting, a line of business is an organizational structure. For example, the accounting department, legal department, or sales department is a line of business.

manager See Symantec ESM Manager.

message

In Symantec ESM Reporting, a message contains text and a security level that describe a specific, non-compliant condition in an agent. Checks return messages in policy runs. Disabled checks do not return messages.

message level

In Symantec ESM Reporting, message level is the security level of a reported message.

policy

In Symantec ESM Reporting, a policy consists of a document (hardcopy or electronic) that outlines specific requirements or rules that must be met. This includes the activities or states that are allowed, required, or forbidden within a specific environment.

In Symantec ESM, a policy is a set of security checks that can audit the security of agents. You can change the security checks in a policy to conform with your organizational security policy.

policy compliance

Policy compliance software audits and scores adherence to your company's security policy by analyzing the settings of controls on information systems in the enterprise.

policy configuration management

Policy configuration management includes the control and configuration of security gateways (for example, firewalls). Through policy configuration management, administrators can distribute security policy changes to one or more organizational units without having to direct the changes to individual security gateways.

security domain

Security domains group computers for security purposes. Security domains can be based on attributes, such as operating system, location, function, and role. Security domains often correspond to Symantec ESM Domains.

security level

Security levels are red, yellow, and green. A red security level represents a serious threat to security. A yellow security level is of moderate concern. A green security level represents no risk to security.

In Symantec ESM, security levels depict the security of agents, managers, and domains at their highest levels. For example, if one agent is red, then the entire domain is red. Similarly, if the highest module in a policy is yellow, then the entire policy is yellow.

SESA (Symantec Enterprise Security Architecture)

The centralized, scalable management architecture that is used by Symantec security products. SESA has managers and agents that are separate from Symantec ESM Managers and Agents. Symantec ESM can communicate with and report data to SESA Managers via the ESM SESA Bridge.

severity

In Symantec ESM Reporting, severity is the measure of Symantec ESM security level. The colors red, yellow, or green represent the different levels.

severity ID

In Symantec ESM Reporting, severity ID is a number from 4 to 0. Severity ID rates the overall impact and risk to Symantec ESM Agents. Red severities have a severity ID of 4. Yellow severities have a severity ID of 3, 2 or 1. Green severities have a severity ID of 0.

Symantec Enterprise Reporting

Symantec Enterprise Reporting is a reporting engine that provides reporting for Symantec Enterprise security products. Symantec ESM Reporting integrates Symantec ESM with Symantec Enterprise Reporting through a database foundation, database link, and a reports package.

Symantec ESM Agent In Symantec ESM, the agent consists of a module server and its communications component. The agent performs security assessments on its host system and returns the results to the Symantec ESM Manager. Agents also store snapshot files of system-specific and user-account information, make user-requested corrections to files, and update snapshots to match the corrected files.

Symantec ESM Manager In Symantec ESM, the manager coordinates the work of its registered agents, provides communication between the agents and the user interfaces, and stores security data.

Symantec ESM Console In Symantec ESM, the Symantec ESM Console is the graphical user interface (GUI) that lets users administer managers and agents. The Symantec ESM Console receives user input, sends audit requests to the managers, and formats the resulting security assessment data for displays or reports.

Symantec ESM Reporting Symantec ESM Reporting provides the database foundation, database link, and the reports package that integrates Symantec ESM with Symantec Enterprise Reporting. Symantec ESM Reporting lets you dynamically create and present reports on the state of your Symantec ESM Agent computers, and on the state of your Symantec ESM application configuration.

violation In Symantec ESM Reporting, a violation is reported when a policy run returns a message with a red or yellow security level. Each message is counted as one violation.

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